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March 30, 2016

Ms. Pamela Molitor  
Remedial Project Manager  
U.S. EPA, SR-6J  
77 West Jackson Boulevard  
Chicago, IL 60604-3590

**RE: 2015 Annual Report  
Powell Road Landfill  
U.S. EPA Docket No. V-W-98-C-466 & V-W-98-C-465**

Dear Ms. Molitor:

Transmitted with this letter, on behalf of Waste Management, is one copy of the 2015 Annual Report for the Powell Road Landfill. A pdf copy also is included on the enclosed disk.

A copy was sent directly to Scott Glum at Ohio EPA.

If you have any questions regarding this submittal, please contact Robin Jones at (937) 318-5342 or email [rjones2@wm.com](mailto:rjones2@wm.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen J. Champa".

Stephen J. Champa, PG  
Senior Hydrogeologist

SJC/kj  
encl.

cc: Robin Jones, WM Project Manager (2 copies)  
Mr. Scott Glum, OEPA/SWDO/DERR, per UAO V-W-98-C-466 (1 copy)  
Thomas Miller, WM Landfill Technician (1 copy)

**2015 ANNUAL REPORT  
POWELL ROAD LANDFILL**

Prepared for:

WASTE MANAGEMENT OF OHIO, INC.

Prepared by:

*EAGON & ASSOCIATES, INC.*  
Worthington, Ohio

March 30, 2016



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## 1.0 INTRODUCTION

This report is the 2015 Annual Report for Powell Road Landfill (PRL) in Montgomery County, Ohio. Included in this report are data on systems operation and maintenance, system and facility inspections, corrective actions, monitoring events and sampling results, and an evaluation of the effectiveness of each of the remedial action components.

On December 9, 2014, U.S. EPA requested that a pilot test be performed to investigate the ability of monitored natural attenuation (MNA) to control groundwater contamination in the shallow zone downgradient of PRL during suspension of landfill liquid collection. A work plan for MNA evaluation during the pilot test (Work Plan for MNA Evaluation, Eagon & Associates, Inc.) was submitted to U.S. EPA on January 16, 2015. The work plan was approved by U.S. EPA on January 27, 2015 and the landfill liquid extraction system was shut down on February 3, 2015.

Pursuant to the approved Remedial Design documents and the approved Operation and Maintenance (O&M) Plan, the remedial action components covered in this Annual Report include:

- Site Security,
- Landfill Cover,
- Surface-Water Controls,
- Landfill Gas Extraction/Treatment,
- Landfill Liquid/Condensate Extraction and Storage,
- Landfill Gas Monitoring, and
- Groundwater Monitoring.

Remedial Action (RA) activities at PRL were conducted in accordance with the approved Powell Road Landfill O&M Plan, March 2013 revision and the Work Plan for MNA Evaluation, January 2015. Semiannual RA Progress Reports were prepared by Waste Management and were submitted to U.S. EPA and Ohio EPA per the requirements of UAO's, V-W-98-C-466 and V-W-98-C-465 and per the frequency approved by U.S. EPA on May 10, 2004. Copies of the semiannual

reports are included in Appendix A. Quarterly inspections were performed in March 2015; June 2015; September 2015; and December 2015. Copies of the quarterly inspection reports are included in Appendix B of this annual report.

## **2.0      ENVIRONMENTAL COVENANT**

A new Environmental Covenant (EC) was developed for the Powell Road Landfill in 2010. The EC was recorded with the Montgomery County Recorder's office on September 29, 2010. A copy of the recorded EC was submitted to U.S. EPA on October 22, 2010. The Owner or any Transferee shall submit to U.S. EPA on an annual basis written documentation verifying that the activity and use limitations remain in place and are in compliance with this Environmental Covenant. The annual EC verification for 2015 is included in Appendix C. As of this date the activity and use limitations remain in place and are in compliance with the EC.

## **3.0      SITE SECURITY**

Site access is controlled by perimeter fencing. All fencing has three strands of barbed wire on the top. The vehicle site entrance from Powell Road is secured with gates and locks. All other access points are gated and locked. Signs are posted on all gates and at 150-foot intervals along the perimeter fence as a warning to potential trespassers. Quarterly inspections must include identification of fencing, barbed wire, gates, locks, and signs that require repair or replacement. Repairs are to be made as soon as practical after discovery.

### **3.1      Inspection**

The site security systems were inspected once per quarter in 2015. Site security items that were inspected included condition of perimeter fencing, presence and condition of signs posted on gates and perimeter fencing, security of the site access road, and whether undesirable uses of the property were being prevented. The quarterly inspection forms are included in Appendix B.

For all four quarters, the inspectors determined that the security systems were generally performing as intended. Vandalism/attempted theft of the perimeter fencing in the first and fourth quarters of 2015 necessitated repairs as noted below. There was no evidence of other damage to site systems or other unauthorized use of the property associated with these incidents.

### **3.2 Corrective Action**

- On February 5, 2015, approximately 220 feet of fencing along the south side of the landfill was repaired/ reinstalled. The damage appeared to be the result of an attempt to steal the fence.
- On December 11, 2015, approximately 200 feet of fence was replaced. The Fence had been damaged due to flooding. A section of the fence along Powell Road also was repaired. Damage to the fence along Powell Road was the result of vandalism.

## **4.0 FINAL COVER**

### **4.1 Description**

The PRL landfill cover is constructed over the waste mass. The constructed landfill cover system includes (from bottom to top):

- A low permeability, compacted, soil barrier layer, with a minimum compacted thickness of 24 inches, constructed to limit surface-water infiltration into the waste mass,
- A grading layer placed over the soil barrier layer in areas where the surface of the placed/existing barrier grades were less than the required minimum 3 percent grade,

- A 12-inch thick granular drainage layer to drain infiltrated surface water off the soil barrier and grading layers to prevent unstable soil conditions from developing,
- A geotextile layer, placed over the granular drainage layer, to prevent overlying soils from clogging the drainage layer, and
- An 18-inch thick vegetative soil layer designed to sustain plant growth, reduce erosion, promote drainage, and provide frost protection.

## **4.2 Maintenance**

Annual maintenance of the final cover system consists of mowing the grass. The landfill was mowed in June and September 2015.

## **4.3 Inspection**

The final cover was inspected once per quarter in 2015. The purpose of the quarterly inspections is to identify and record on the inspection report any areas of sparse vegetation, areas where erosion has taken place in the form of surface scour or formation of rills or gullies, locations of any animal intrusions, and any areas which have settled enough to trap surface water.

Items evaluated and noted on the inspection form during quarterly inspections of the final cover include:

- Final cover erosion,
- Top slope good drainage,
- Side slope good drainage,
- Evidence of gas or landfill liquid, and
- Vegetation quality and density.



The quarterly inspections indicated no problems with regard to erosion and drainage and there was no evidence of gas or landfill liquid.

#### **4.4 Corrective Action**

No corrective actions were required during 2015.

### **5.0 SURFACE-WATER DRAINAGE CONTROL AND FLOOD PROTECTION**

#### **5.1 Description**

The surface-water drainage control system consists of diversion swales on the final cover, perimeter drainage channels, culverts, and stone riprap. Ditches and channels are grass-lined and are designed to handle flow from a 25-year, 24-hour storm. Riprap is provided where surface-water velocities cannot be controlled by vegetation alone. Corrugated steel culverts are used where a perimeter channel must cross an access road.

Due to the proximity of the Great Miami River to the PRL, a flood protection system is necessary to protect the final cover system during flood events. The existing trees and vegetation surrounding the landfill and the vegetative cover of the landfill provide adequate erosion control for the 100-year flood and constitute the flood-protection mechanisms. Mature trees and brush that currently exist between the Great Miami River and the landfill reduce the velocity of floodwaters that might come in contact with the landfill. The vegetative cover installed on the landfill cap within the floodplain is a deep-rooted, flood-resistant seed mix. The root system of the established vegetative cover holds the landfill final cover soils in place during flooding.

#### **5.2 Maintenance**

The surface-water ditches and channels require mowing and, from time to time, reshaping to better control runoff. Ditches and channels are mowed on the same schedule as the landfill cover to

control excess vegetation within the ditches. Ditches and channels are cleaned out as a corrective action when necessary. The ditches and channels were mowed in June 2015.

Corrective actions which may be required for the drainage-control/flood-protection system include periodic removal of silt, repair of gravel roadways, and repair of eroded grass channels. If erosion occurs repeatedly in a specific area, a design engineer may be consulted to determine if riprap is necessary. Any required final cover materials, riprap, vegetation, or culverts shall be obtained and placed in accordance with Technical Specifications in Section 6.0 of the O&M Plan.

### **5.3 Inspection**

The surface-water drainage-control/flood-protection system was inspected once per quarter in 2015. Inspection reports and Surface Water Control Inspection Logs are included in Appendix B.

Items evaluated and noted on the quarterly inspection form for the surface-water drainage system are:

- Appropriate runoff controls,
- Diversion ditches,
- Perimeter ditches,
- Perimeter stone,
- Outlet structures, and
- Roads.

Items evaluated on the Surface-Water Control Inspection Log are:

- Erosion and sediment control measures,
- Stabilization/Non-structural practices including surface grading, vegetative cover, mulch, and channel riprap,

- Structural practices including silt fencing and ditch checks,
- Discharge locations checked for sediment buildup,
- Vehicles tracking sediment off-site, and
- Status of Previous Maintenance Activities.

#### **5.4 Corrective Action**

The quarterly inspection reports did not identify any items that needed attention in 2015.

### **6.0 LANDFILL LIQUID/CONDENSATE MANAGEMENT SYSTEM AND COMPRESSED AIR SUPPLY SYSTEM**

#### **6.1 Description**

The landfill liquid/condensate-extraction system consists of 3 liquid-extraction wells, 26 dual gas/liquid-extraction wells, well pumps, dual gas/liquid-header piping, three liquid/gas condensate-knockout sumps, two liquid/condensate-knockout pumps, force mains, a gravity liquid/condensate main, a liquid/condensate collection tank, and a load out facility and pump. Pneumatic pumps are installed in Knockouts 1 and 2 and those extraction wells which contain landfill liquid in sufficiently recoverable quantities as defined by the approved Remedial Design. Landfill liquid is pumped out of the wells and discharged into the dual gas/liquid header where it flows by gravity to one of three knockouts. At Knockouts 1 and 2, the accumulated liquid is pumped to a high point in the header piping system. From the high point, the liquid flows by gravity to Knockout 3. Landfill liquid/gas condensate flows by gravity from Knockout 3 to the site collection tank. In August 2012, a well (LCS Well) was installed to monitor groundwater elevations at the site. The well was equipped with a level sensor and alarm. The level sensor shuts down the flow of air to the extraction wells when the groundwater level in the LCS Well rises above 751 feet msl (i.e., during flood conditions) and reactivates the landfill liquid extraction system when the groundwater level recedes below 751 feet msl. The landfill gas and liquid extraction systems are shown on Figure 1.

Well pumps and knockout pumps are pneumatically powered. An air compressor and associated equipment is housed in the Air Compressor Building, shown on Figure 1, located near the Blower/Flare Station. From the compressor, a network of underground 2-inch diameter compressed air supply piping feeds each of the well and sump pumps.

On February 3, 2015, the MNA pilot test was initiated and the landfill liquid extraction system was shut down. The air compressor and pneumatic pumps at Knockouts 1 and 2 remain in operation to facilitate collection of landfill gas condensate. The level sensor in the LCS well has been disconnected from the OMNI control system during the pilot test.

## **6.2 Operation**

### **6.2.1 Pneumatic Pumps**

The knockout pumps and well pumps operate automatically when activated by liquid levels within the knockout or well. They are not expected to require adjustments to operate. The pump regulators are subject to freezing and need to be checked periodically during cold weather. The regulators and liquid discharge lines need to be thawed out, weather permitting, when they are found to be frozen.

### **6.2.2 Air Compressor**

The air compressor is operated full-time when the liquid extraction system is in operation. All of the pumps are powered by compressed air. In the event of a high level alarm in the landfill liquid/condensate collection tank, the air compressor is automatically shut down to disable the pumps. Prior to the MNA Pilot Test, the air compressor also was shut down during flooding by the level sensor alarm in the LCS Well, when groundwater levels rose above 751 feet msl at the LCS Well.

### 6.2.3 Liquid Collection Tank

The liquid collection tank contains level switches which signal the controller to activate notification lights and the auto-dialer. In the event of a high-level alarm, the controller shuts down the air compressor. The level switches, controls, and alarms for the liquid collection tank functioned properly in 2015 with routine maintenance.

### 6.2.4 Auto-Dialer

The auto-dialer notifies individuals of tank-level information (1/2-full, 3/4-full, or full), air compressor system shutdown, and flare system shutdown according to a pre-programmed call list and continues dialing until an individual acknowledges the call. The auto-dialer protocol was revised in March 2015 and is included in Appendix D. The auto-dialer functioned properly in 2015.

### 6.2.5 LCS Well

The LCS well functioned as intended in 2015, prior to the shutdown of the landfill liquid extraction system on February 3, 2015 for the MNA pilot test. There was no shutdown of the landfill liquid collection system due to high groundwater levels at the LCS well between January 1 and February 3, 2015.

## 6.3 Maintenance

Maintenance for well pumps, knockout pumps, the air compressor, storage tank pump, auto-dialer, level switches, etc. is performed in accordance with the Maintenance Schedule in Appendix D of the O&M Plan or as maintenance requirements are identified during inspection or operation of the system. All maintenance is performed in accordance with the manufacturers' recommendations.

## 6.4 Inspection

The 30-year O&M Schedule included in Appendix D of the O&M Plan calls for quarterly inspections and checks of the landfill liquid management system, and for semiannual cleaning of the flame arrestor on the vent for the liquid/condensate collection tank, and semiannual inspection of the compressed air distribution piping system for signs of leakage. The required inspections and maintenance activities have been performed in accordance with the O&M plan in 2015. Landfill Systems Equipment Inspection Reports are included in Appendix B and Landfill Gas and Condensate Collection Systems Maintenance Summary Reports are included in Appendix E. Compressor and sump inspection information also is included on the Blower/Flare Station Data sheets in Appendix F.

The system components inspected, evaluated, and noted on the quarterly inspection forms in Appendix B for the landfill liquid/condensate management system and the compressed air supply system include:

- Collection sumps and risers
- Electrical components
- Liquid loading pad
- Storage tank
- Security of system
- Flare/Blower operation
- Extraction wells/pumps
- Mechanical components
- Gas probes
- Evidence of odors/migration
- Auto-dialer

Corrective actions are itemized in Section 6.5. There were no deficiencies for these system components in 2015.

## **6.5 Corrective Action**

No corrective actions were performed on the landfill liquid management and compressed air supply systems in 2015.

## **6.6 Liquid Levels**

### **6.6.1 Monitoring**

The O&M requirement for quarterly monitoring of liquid levels in wells without extraction pumps was eliminated in September 2013 per approval by USEPA (letter from Molitor to Jones, September 27, 2013). The extraction wells were inspected during quarterly inspections in 2015.

For background information on liquid-level monitoring prior to 2000 and information pertaining to initial pump installation and extraction pump operation and maintenance, refer to RA Technical Memorandum No. 7, "Leachate Pump Installations, Leachate Levels," dated January 11, 2000.

### **6.6.2 Corrective Action**

- Kanaflex tubing was replaced on all of the extraction wells in June 2015.
- Pneumatic pumps were removed from the extraction wells in August and September, 2015. The pumps were cleaned and are stored on-site in the compressor building.
- Fernco caps were replaced at wells G/L-6, 7, 8, 13, 14, 22, 23, 24, and 26 in October and November 2015 due to animal damage.

## **6.7 Landfill Liquid Volume Monitoring**

A monthly summary of the quantity of liquid hauled from PRL in 2015 is included in Appendix G. All liquid was removed from the site via tanker truck and was hauled by Veolia Industrial to the Valicor (formerly United Wastewater) Treatment Facility for disposal. The total amount of liquid removed from PRL in 2015 was 16,800 gallons. 9,800 gallons were hauled in January 2015 during normal operation of the liquid collection system. Only gas condensate was pumped to the tank after February 3, 2015.

## **6.8 Landfill Liquid Quality Monitoring**

The required annual landfill liquid sample was collected and analyzed in May 2015 in accordance with Section 2.9 of the approved O&M Plan. Analytical results from the collection tank samples are summarized on Table H-1 in Appendix H. Only detected VOCs, SVOCs, pesticides, herbicides, and PCBs are listed on Table H-1. The collection tank sample was analyzed for all the parameters of the approved reduced monitoring analyte list. The analytical data on Table H-1 show consistency in the parameters detected with some variation in the detected concentrations between events.

## **7.0 LANDFILL GAS MANAGEMENT SYSTEM**

### **7.1 Description**

Landfill gas (LFG) is collected from a network of 26 dual gas/liquid extraction wells. The design allows for simultaneous extraction of gas and landfill liquid from the landfill. A blower is used to create a vacuum within the headers and wells to extract the gas from the landfill. The collected landfill gas is conveyed through buried high-density polyethylene (HDPE) pipes (laterals) connected to a common buried main HDPE header. The landfill gas is conveyed to a flare for combustion. Condensate from the landfill gas extraction system is separated from the gas and



combines with extracted liquid in three knockouts located at low points within the header system. The landfill gas and liquid extraction systems are shown on Figure 1.

## **7.2 Operation**

The landfill gas extraction system includes the wells, wellhead assemblies, transmission piping and valves, blower, and flare. The landfill gas extraction system components need to be operated simultaneously to result in a balanced system.

### **7.2.1 Normal Operation**

The gas/liquid extraction wells are required to be monitored quarterly for oxygen content, percent methane, differential pressure (to determine flow), gas temperature, cover settlement and desiccation, vegetative stress, and the physical condition of the wellhead. These measurements and observations are made in order to determine the overall physical condition and operating status of the gas well system.

Quarterly monitoring of the blower/flare station also is required for oxygen, methane content, gas temperature and flow rate, blower amps, flare temperature, and physical condition of equipment. These measurements and observations are made in order to determine the overall physical condition and operating status of the blower/flare station.

The system was inspected, monitored, and adjusted by the Waste Management Landfill Technician quarterly in 2015. Appendix I contains the Wellfield Monitoring Data Reports for 2015. The reports document methane and oxygen concentrations, applied vacuum, and any adjustments made to the control valve for improving operations at each well. Blower/ Flare Station Data sheets are included in Appendix F. These reports document vacuum, percent methane, percent oxygen, and total system flow in cubic feet per minute (cfm) at the blower/ flare station. The flare operates for 12 hours each day from 8:00 am to 8:00 pm. This operating cycle prevents flare outages due to insufficient gas flow and/or poor gas quality.

### 7.2.2 Downtime

Monthly downtime reports for the gas extraction and liquid/condensate management systems are included in Appendix D.

## 7.3 Maintenance

Maintenance for landfill gas header valves, the flare, and blower is carried out in accordance with the O&M Plan, as identified during inspection or operation of the system, and in accordance with the manufacturer's recommendations.

The 30-year O&M schedule included in Appendix D of the O&M Plan calls for the flare stack to be drained, the blower to be lubricated, and several checks on the system to be performed quarterly. In addition, the flame arrestor is to be cleaned semiannually. These maintenance activities were carried out in 2015. Other maintenance activities were performed as necessary in 2015 as described on the Blower/Flare Station Data sheets in Appendix F.

### 7.3.1 Landfill Gas Header

Maintenance on the landfill gas header is expected to be minimal based on experience from other sites. The most typical concerns are crushing due to unexpected traffic or excavation, and water blockage due to settlement of waste. Since the landfill header is designed as a looped system, repair on an individual segment or leg would not impact the entire system. The repair area could be isolated by valves or temporary plugs. There were no landfill gas header system breaks or blockages in 2015.

### 7.3.2 Valves

The landfill gas transmission valves and valves at the wellheads are plastic. During inspections, the valve handles are turned to determine if each valve is operable. Excessive resistance

could mean partial blockage of the valve. There were no operational problems with the valves in 2015.

### 7.3.3 Flare

Scheduled inspections of the flare are performed to monitor the physical condition of the stack metal and flame arrestor. The stack will be replaced when excessive corrosion or perforation of the metal stack is noted. No such deterioration has occurred. The flame arrestor is maintained in accordance with the manufacturer's requirements included in Appendix F-8 of the O&M Plan. During each inspection, the drain plug at the base of the flare stack was opened and any accumulated condensate was collected and disposed in the liquid/condensate collection tank.

Maintenance of the area near the pad on which the flare is mounted includes removal of vegetation/weeds by spraying or cutting. Weeds and vegetation were removed in 2015. Concrete surface maintenance is limited to repairs on an as-needed basis.

### 7.3.4 Blower

An Aerovent Model 26/6-HPB-3500-15 high pressure, fan-type blower provides vacuum extraction to the well field and discharges the gas to a Landfill Gas Specialties flare package model PCF61816 utility flare for thermal destruction. The O&M Manual for the flare system is included in Appendix F-8 of the PRL O&M Plan.

## 7.4 Inspection

The landfill gas management system was inspected at least once per quarter in 2015 and inspection reports are included in Appendix B. The inspections were performed to identify gas system components in need of repair. The inspections included observation and operation of all system components to identify any damage and verify optimal operation.

The components of the landfill gas management system noted on the quarterly inspection forms include:

- Electrical components,
- Mechanical components,
- Extraction wells,
- Flare/blower operation, and
- Security of system.

Maintenance on the extraction wells is described in Sections 6.5 and 6.6.2. Other than what is listed in section 7.5, no other deficiencies were noted on the quarterly inspection forms in 2015.

## **7.5 Corrective Action**

- In March 2015, a broken section of 2" airline to the flare was removed and replaced with a 2" valve.
- The Omni alarm panel was inspected in March 2015 due to alarm failure when flare was shutdown. The system was found to be functioning properly.
- The actuated valve for the flare was replaced in August 2015.

## **8.0 LANDFILL GAS MIGRATION MONITORING SYSTEM**

### **8.1 Description**

The landfill gas migration monitoring system consists of one Sierra monitor within the compressor building and permanent gas monitoring probes near the property boundaries. The landfill gas monitoring system is shown on Figure 2.

Horizontal and vertical layout of the gas monitoring probes is based on site-specific geologic conditions. The gas probes are horizontally positioned outside the limits of waste and in line with off-site structures. Their depths were determined based on the estimated bottom of refuse elevation in the landfill and the groundwater elevation.

The landfill gas migration monitoring system includes six permanent gas monitoring probes (GP-1 through GP-6). These probes are located along the north and northeast perimeters of the landfill as shown on Figure 2. The installation of the six gas probes is documented in a report titled, “Perimeter Gas Monitoring Probe Construction Report,” February 2000, prepared by SCS Engineers, and is included in Appendix E of the Explosive Gas Monitoring Plan (March 2013).

The landfill gas migration monitoring system at Powell Road Landfill also includes one Sierra Model 2001 Combustible Gas Monitor located within the Compressor Building. The monitor continuously checks atmospheric concentrations of combustible gas with a trigger level of 1 percent v/v (20 percent LEL). If the trigger level is reached or exceeded, both audio and visual alarms alert the occupants to the presence of elevated levels of combustible gas within the structure. (Occupants would then follow the instructions included in the “Residential Emergency Procedure,” included in Appendix F of the Explosive Gas Monitoring Plan as Exhibit 10.)

## **8.2 Inspection**

The landfill gas migration monitoring system was inspected at least once per quarter in 2015. The quarterly inspections were performed to identify any system components in need of repair. Inspection reports in Appendix B did not note any deficiencies. The Sierra Combustible Gas Monitor also was inspected quarterly and copies of the inspection forms are included in Appendix J.

## **8.3 Corrective Action**

No corrective actions were required in 2015.

## 8.4 Monitoring

Landfill gas monitoring was performed in accordance with the approved explosive gas monitoring plan. Each monitoring station must be monitored at the following minimum frequencies:

1. Quarterly monitoring, for a minimum of 1 year following approval of the Explosive Gas Monitoring Plan.
2. Semiannually thereafter until released from the requirement by the Director of the Ohio EPA in accordance with OAC 3745-27-12(L) and with the approval of the U.S. EPA.

Gas monitoring at the site follows safety and procedural methods included in the “Standard Monitoring Procedures” portion of the Explosive Gas Monitoring Plan.

### 8.4.1 Sampling

Sampling of the landfill gas monitoring probes was performed quarterly in 2015. The following information was recorded:

1. Percent methane,
2. Gas pressure in the probe,
3. Water level in the probe,
4. Ambient barometric pressure, and
5. Observed weather conditions at the time of sampling.

The results are recorded on the Permanent Gas Probe Monitoring Reports included in Appendix K.

#### 8.4.2 Results

Pressure readings ranging from 0.00 to 0.30 inches w.c. were recorded in 2015, as noted on the monitoring reports. No methane was detected and there were no alarms from the Sierra Combustible Gas Monitor. Water levels could not be measured in GP-4, because the cap could not be removed.

#### 8.4.3 Corrective Action

No corrective actions were required in 2015.

### **9.0 GROUNDWATER MONITORING SYSTEM**

#### **9.1 Description**

The groundwater monitoring system at PRL consists of 19 monitoring wells for the collection of groundwater samples and five monitoring wells that are used only for measurement of groundwater levels. The monitoring well locations are shown on Figure 2.

Groundwater monitoring wells MW02AR, MW04AR, MW05AR, MW07AR, MW16A, MW17A, and MW18A are downgradient site monitoring wells completed in the shallow zone north of the Great Miami River. MW07AR is used only for water-level measurements. MW12A is an upgradient well completed in the shallow zone.

Monitoring wells MW02B, MW04BRR, MW05BR, MW16B, MW17B, and MW18B are downgradient monitoring wells completed in the primary aquifer north of the Great Miami River. Monitoring wells MW13B, MW13C, MW14B, MW15B, and MW15C are primary aquifer monitoring wells south of the Great Miami River (Eldorado Plat area). MW12B is the upgradient primary aquifer monitoring well.

Monitoring wells MW3S, MW3D, MW4S, and MW4D are shallow and deep primary aquifer well pairs that belong to the City of Dayton. These wells are used only for groundwater level measurements.

The purpose of the groundwater monitoring program is to generate data that can be used to evaluate the effectiveness of the containment components of the remedial action at reducing risks and achieving cleanup levels in the groundwater in the shallow zone adjacent to PRL. The program also monitors for changes in groundwater flow and potential migration of contaminated groundwater from the site.

## **9.2 Inspection**

The groundwater monitoring system was inspected once per quarter in 2014 and the quarterly inspection forms are included in Appendix B. The purpose of the quarterly inspections is to identify any system components in need of repair.

Items evaluated during the quarterly inspections are:

- Construction integrity,
- Security of wells, and
- Identification of wells.

None of these items required attention during 2015.

The groundwater monitoring system was also inspected during groundwater monitoring events. Monitoring Well Integrity Reports are included in Appendix L for inspections conducted on May 4 and November 3, 2015. The report form includes 22 questions in four categories. The categories are:



- Location/Identification
- Surface Seal
- External Casing
- Internal Casing

An explanation of items marked “X” on the inspection forms is included with each form in Appendix L. All items marked “X” were either unavoidable or done on purpose as explained in the appendix. The pump at MW02B was replaced in May 2015 after being serviced by QED following the November 2014 event. There were no other items marked indicating damage or poor physical condition of groundwater monitoring wells in 2015.

### **9.3 Corrective Action**

The groundwater monitoring system did not require any corrective action in 2015.

### **9.4 Monitoring**

#### **9.4.1 Sampling**

Groundwater samples were collected from site groundwater monitoring wells in May and November 2015 in accordance with the site-specific Ground-Water Monitoring Plan (Appendix H to the O&M Plan). During each groundwater monitoring event, samples were collected and analyzed for the parameters required for regular semiannual monitoring and additional parameters for monitored natural attenuation.

#### **9.4.2 Results**

Groundwater quality results for the Powell Road Landfill are summarized on CD in Appendix M on Tables M-1 (VOCs), M-2 (Metals), and M-3 (Wet Chemistry Analytes). The validated data plus trend plots for the 2015 groundwater monitoring events were submitted to the

Agencies in separate data reports. Non-CLP analyses were performed by TestAmerica (fka Severn Trent Laboratories). Data validation was performed by Eagon & Associates, Inc., in accordance with the “National Functional Guidelines for Inorganic Superfund Data Review, August 2014”, “National Functional Guidelines for Superfund Organic Methods Data Review, August 2014”, and the TestAmerica method SOPs.

#### 9.4.3 Conclusions

The groundwater study report submitted to the Agencies in January 2003, and the 2008 and 2013 updates to the groundwater study report, demonstrate that the containment components of the remedial action, in conjunction with natural attenuation, have been and continue to be effective at reducing concentrations of volatile organic compounds and inorganic constituents in groundwater downgradient of PRL. The results of the 2013 third five-year review by U.S. EPA supported the conclusions of the 2013 groundwater study report. Groundwater monitoring results from 2015 generally show declining or stable trends in VOC concentrations and reduction of overall groundwater risks.

## **10.0      EVALUATION OF THE REMEDIAL ACTION**

### **10.1    Introduction**

The purpose of this section is to report on the effectiveness of the remedial action components at meeting the design goals and protecting human health and the environment at Powell Road Landfill in 2015. The remedial action components covered in this Annual Report include:

- Site security,
- Final cover,
- Surface-water drainage and flood control,
- Landfill liquid/condensate management system,
- Landfill gas management system,

- Landfill gas migration monitoring, and
- Groundwater monitoring.

## **10.2 Evaluations**

In this section, each of the above components is evaluated as to its effectiveness in meeting performance standards in 2015.

The site security system was generally effective at preventing undesirable access or use of the site. Vandalism of the perimeter fence did not result in damage to other site systems.

The final cover system was effective in reducing infiltration of surface water into the waste mass.

Surface-water drainage was maintained to effectively route water off the final cover system so that ponding did not occur and infiltration of surface water into the final cover was minimized. The flood protection system was maintained to reduce the erosive effects of flooding of the Great Miami River on the landfill. Mature trees, brush, and grasses located between the landfill and the river were not disturbed or mowed in 2015 so as to maintain the natural buffers which reduce the velocity of flood waters that came in contact with the landfill. The vegetative cover installed on the lower reaches of the landfill is a deep-rooted flood-resistant seed mix which was maintained in 2015 to hold the final cover soils in place during flooding.

On February 3, 2015 a pilot test was initiated at the request of U.S. EPA to determine the ability of MNA to control groundwater contamination in the shallow zone downgradient of PRL during suspension of landfill liquid collection. In accordance with the approved Work Plan for MNA Evaluation, the pilot test will be performed for a minimum of two years and an annual MNA evaluation will be submitted with the semiannual data submittals for the second semiannual groundwater monitoring events. Landfill gas and condensate collection procedures have not been changed. Approximately 16,800 gallons of liquid were removed from the PRL in 2015.

The landfill gas management system was maintained to effectively remove and combust landfill gas from the PRL such that migration of combustible concentrations of methane gas did not occur.

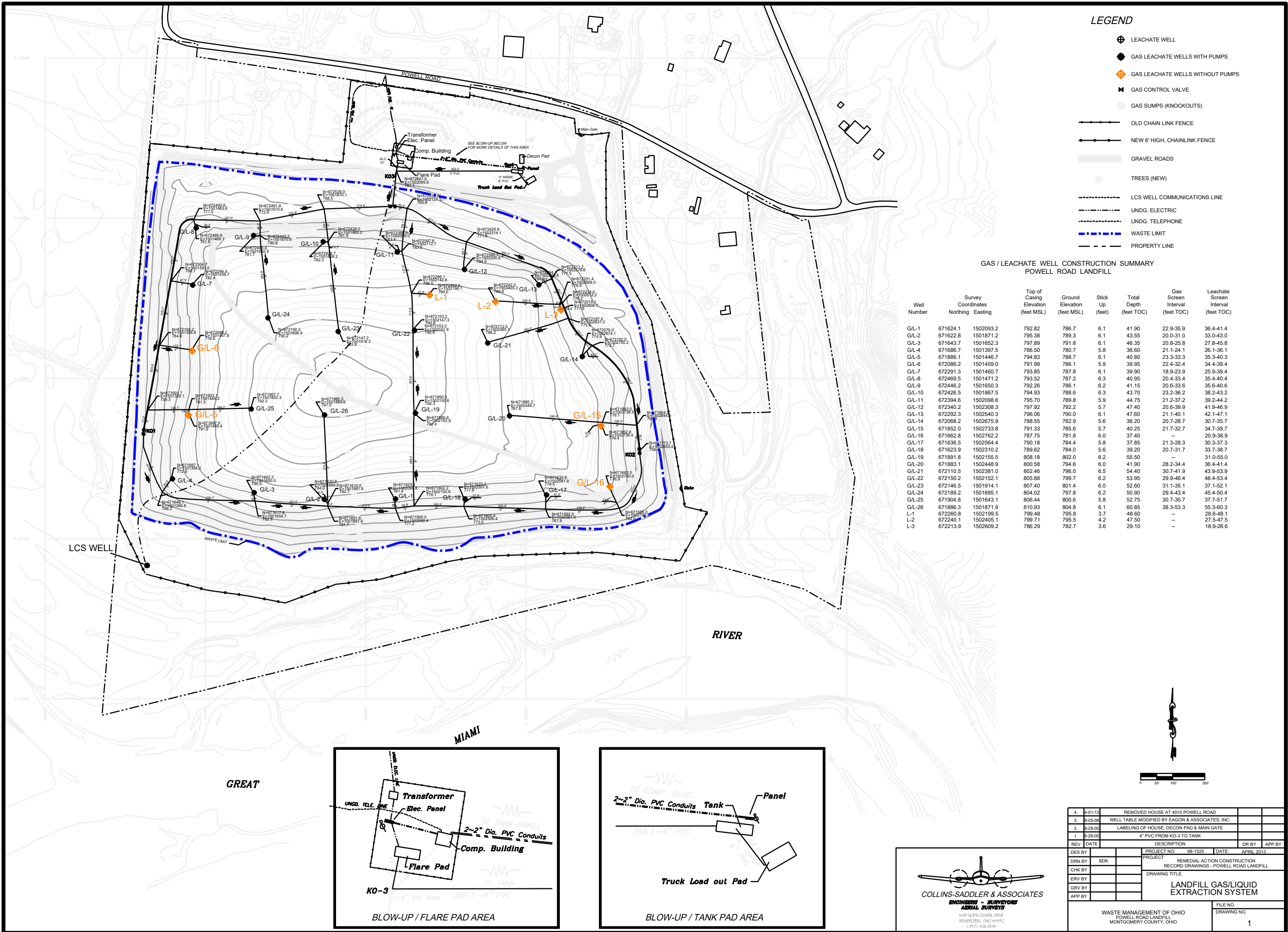
The landfill gas migration monitoring system was properly maintained and monitored in 2015. There were no methane detections at the gas monitoring probes and there were no alarms from the Sierra monitor.

The groundwater monitoring system was maintained and groundwater samples were collected and analyzed in May and November 2015 in accordance with the site-specific Ground-Water Monitoring Plan. The update to the groundwater study report submitted to the Agencies in 2013 demonstrated that the containment components of the remedial action, in conjunction with natural attenuation, have been effective at reducing concentrations of VOCs and reducing overall risks in groundwater downgradient of PRL. The third five-year review by U.S. EPA in 2013 agreed with the conclusions of the groundwater study. Groundwater monitoring results from 2015 showed declining to stable VOC concentrations and reduction of risks from groundwater.

In summary, the remedial action components at Powell Road Landfill were effective at meeting the performance standards in 2015.

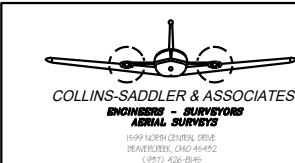
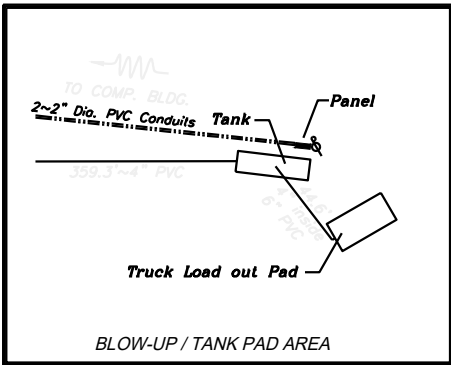
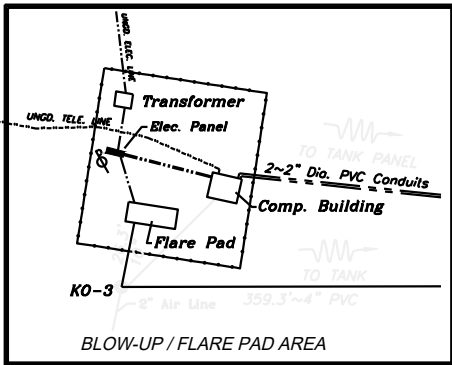
## FIGURES

C:\ACAD\DWG\POWELL\DWG6-REV\_2012.DWG 10/01/2013



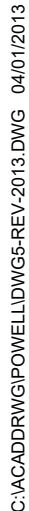
GAS / LEACHATE WELL CONSTRUCTION SUMMARY  
POWELL ROAD LANDFILL

Well Number	Survey Coordinates Northing Easting	Top of Casing Elevation (feet MSL)	Ground Elevation (feet MSL)	Stick Up (feet)	Total Depth (feet TOC)	Gas Screen Interval (feet TOC)	Leachate Screen Interval (feet TOC)
G/L-1	671624.1 1502093.2	792.82	786.7	6.1	41.90	22.9-35.9	36.4-41.4
G/L-2	671622.8 1501871.2	795.38	789.3	6.1	43.55	20.0-31.0	33.0-43.0
G/L-3	671643.7 1501652.3	797.89	791.8	6.1	46.35	20.8-25.8	27.8-45.8
G/L-4	671686.7 1501397.5	786.50	780.7	5.8	36.60	21.1-24.1	26.1-36.1
G/L-5	671886.1 1501446.7	794.83	788.7	6.1	40.80	23.3-33.3	35.3-40.3
G/L-6	672086.2 1501459.0	791.99	786.1	5.9	39.95	22.4-32.4	34.4-39.4
G/L-7	672291.3 1501460.7	793.85	787.8	6.1	39.90	18.9-23.9	25.9-39.4
G/L-8	672468.5 1501471.2	793.52	787.2	6.3	40.95	20.4-33.4	35.4-40.4
G/L-9	672446.2 1501650.3	792.26	786.1	6.2	41.15	20.6-33.6	35.6-40.6
G/L-10	672426.5 1501867.5	794.93	788.6	6.3	43.70	23.2-36.2	38.2-43.2
G/L-11	672394.6 1502098.6	795.70	789.8	5.9	44.75	21.2-37.2	39.2-44.2
G/L-12	672340.2 1502308.3	797.92	792.2	5.7	47.40	20.6-39.9	41.9-46.9
G/L-13	672292.3 1502540.3	796.06	790.0	6.1	47.60	21.1-40.1	42.1-47.1
G/L-14	672088.2 1502675.9	788.55	782.9	5.6	36.20	20.7-28.7	30.7-35.7
G/L-15	671852.0 1502733.8	791.33	785.6	5.7	40.25	21.7-32.7	34.7-39.7
G/L-16	671662.8 1502762.2	787.75	781.8	6.0	37.40	--	20.9-36.9
G/L-17	671636.5 1502564.4	790.18	784.4	5.8	37.85	21.3-28.3	30.3-37.3
G/L-18	671623.9 1502310.2	789.62	784.0	5.6	39.20	20.7-31.7	33.7-38.7
G/L-19	671891.8 1502155.5	808.18	802.0	6.2	55.50	--	31.0-55.0
G/L-20	671883.1 1502448.9	800.58	794.6	6.0	41.90	28.2-34.4	36.4-41.4
G/L-21	672110.5 1502381.0	802.46	796.0	6.5	54.40	30.7-41.9	43.9-53.9
G/L-22	672150.2 1502152.1	805.88	799.7	6.2	53.95	29.9-46.4	48.4-53.4
G/L-23	672146.5 1501914.1	807.40	801.4	6.0	52.60	31.1-35.1	37.1-52.1
G/L-24	672189.2 1501695.1	804.02	797.8	6.2	50.90	29.4-43.4	45.4-50.4
G/L-25	671904.8 1501643.1	806.44	800.6	5.8	52.75	30.7-35.7	37.7-51.7
G/L-26	671886.3 1501871.9	810.93	804.8	6.1	60.85	38.3-53.3	55.3-60.3
L-1	672260.8 1502199.5	799.48	795.8	3.7	46.60	--	28.6-48.1
L-2	672240.1 1502405.1	799.71	795.5	4.2	47.50	--	27.5-47.5
L-3	672213.9 1502609.2	786.29	782.7	3.6	29.10	--	18.9-28.6



4.	4-01-13	REMOVED HOUSE AT 4010 POWELL ROAD				
3.	8-05-08	WELL TABLE MODIFIED BY EAGON & ASSOCIATES, INC.				
2.	8-28-08	LABELING OF HOUSE, DECON PAD & MAIN GATE				
1.	8-26-00	4" PVC FROM KO-3 TO TANK				
REV.	DATE	DESCRIPTION			DR BY	APP BY
DES BY		PROJECT NO.	98-1525	DATE	APRIL 2013	
DRN BY	BOK	PROJECT REMEDIAL ACTION CONSTRUCTION				
CHK BY		RECORD DRAWINGS - POWELL ROAD LANDFILL				
ERV BY		DRAWING TITLE				
GRV BY		LANDFILL GAS/LIQUID EXTRACTION SYSTEM				
APP BY						
WASTE MANAGEMENT OF OHIO POWELL ROAD LANDFILL MONTGOMERY COUNTY, OHIO				FILE NO.	DRAWING NO.	
					1	





## **APPENDIX A.**

### **2015 SEMIANNUAL PROGRESS REPORTS**





**CLOSED SITE MANAGEMENT GROUP**

1700 North Broad Street  
Fairborn, OH 45324  
(937) 318-5342  
(832) 668-3169 Fax

July 31, 2015

**FEDERAL EXPRESS**

Ms. Pamela Molitor  
Remedial Project Manager  
U.S. EPA, SR-6J  
77 West Jackson Boulevard  
Chicago, IL 60604

**SUBJECT: 2015 FIRST SEMI-ANNUAL PROGRESS REPORT  
REMEDIAL ACTION  
POWELL ROAD LANDFILL  
U.S. EPA DOCKET NO. V-W-98-C- 466/465**

Dear Pamela:

Pursuant to the above referenced Orders WMO is presenting you with the progress report for the Remedial Action O&M activities at the Powell Road Landfill. This report is for the period of January 1, 2015 thru June 30, 2015. This report was prepared per the requirements specified in the above referenced UAO's and per the frequency approved by USEPA on May 10, 2004.

**1.0 DESCRIPTION OF TASKS/ACTIONS PERFORMED IN ACCORDANCE WITH UAO V-W-98-C-466 DURING THIS REPORTING PERIOD**

The following submittals were made:

1/16/15 – Pilot Study Work Plan  
03/2/15 – SA Progress Report  
01/26/15 – SA GW Report  
04/17/15 – GW Sampling Notification  
03/20/15 – Annual Report

**2.0 SUMMARY OF WORK COMPLETED (01/15-06/15)**

The following occurred:

1<sup>st</sup> SA GW event – 5/4-5/6/15  
quarterly inspection – 03/5/15  
quarterly inspection – 06/16/15  
mowing – 07/15

LEACHATE SUMMARY	
January	9,800 gals
February	3,000 gals
March	0 gals
April	0 gals
May	0 gals
June	0 gals
Total	12,800 gals

GAS WELL TUNING	
1 Qtr	3/5/15
2 Qtr	6/16/15

The (03/5/15; 06/16/15) quarterly inspections and (03/5/15; 06/16/15) gas probe monitoring forms are attached. The site was mowed in late June. The system downtime and maintenance reports are attached.

### **3.0 90 DAY SCHEDULE(S) WORK PLANNED (07/15-12/15)**

The next semi-annual report will be submitted in January 2016.

Turn off leachate pumps at wells begin pilot study 02/03/15

SA GW Report - 07/15

Qtrly inspection – 09/15

Qtrly gas probes – 09/15

2<sup>nd</sup> SA GW event – 11/15

Qtrly inspection - 12/15

Qtrly gas probes – 12/15

SA Progress Report – 01/16

#### **4.0 SCHEDULE VARIANCES FROM APPROVED RA PROJECT SCHEDULE**

No significant activity this reporting period.

#### **5.0 SUMMARY OF GROUNDWATER ACTIVITY PER UAO V-W-98-C-465 DURING THIS PERIOD**

No significant activity.

#### **6.0 SUMMARY AND DISCUSSION OF ALL APPROVED AND UNAPPROVED CHANGES MADE IN THE RA DURING THIS PERIOD**

WM initiated a dialogue with USEPA about the postponed requirement for pump & treat at the site. WM requested information and guidance from USEPA concerning an MNA submittal and possible remedy amendment. In a 12/9/14 letter, USEPA proposed a pilot study and requested that WM draft a work plan. WM submitted a work plan in January 2015. The work plan was approved 1/27/15. WM turned off the leachate pumps at the extraction wells and began the pilot study 02/03/15. WM has been monitoring the gas well field on a self-imposed monthly basis. WM has changed the gas well field tuning to the frequency in the O&M Plan [Qtrly].

#### **7.0 SUMMARY OF PROBLEMS/DELAYS OR POTENTIAL PROBLEMS/DELAYS ENCOUNTERED DURING THIS PERIOD**

No significant activity.

#### **8.0 ACTIONS BEING TAKEN TO RECTIFY PROBLEMS/DELAYS**

See attached downtime reports.

**9.0 CHANGES IN PERSONNEL DURING THIS REPORTING PERIOD**

No significant activity.

**10.0 PROJECTED WORK FOR THE NEXT REPORTING PERIOD**

See items in Section 3 above.

**11.0 COPIES OF REPORTS AND SAMPLING RESULTS GENERATED DURING THIS PERIOD**

See attached downtime, gas and quarterly inspection reports.

Please contact Robin Jones regarding this submittal at 937-318-5342 or at [rjones2@wm.com](mailto:rjones2@wm.com).

Respectfully,



Robin L. Jones  
District Manager  
WM Closed Sites  
Powell Road Landfill Project Coordinator

attachment

cc. Scott Glum, OEPA/SWDO/DERR  
PRL Distribution



**CLOSED SITE MANAGEMENT GROUP**

1700 North Broad Street  
Fairborn, OH 45324  
(937) 318-5342  
(832) 668-3169 Fax

February 29, 2016

**FEDERAL EXPRESS**

Ms. Pamela Molitor  
Remedial Project Manager  
U.S. EPA, SR-6J  
77 West Jackson Boulevard  
Chicago, IL 60604

**SUBJECT: 2015 SECOND SEMI-ANNUAL PROGRESS REPORT  
REMEDIAL ACTION  
POWELL ROAD LANDFILL  
U.S. EPA DOCKET NO. V-W-98-C- 466/465**

Dear Pamela:

Pursuant to the above referenced Orders WMO is presenting you with the progress report for the Remedial Action O&M activities at the Powell Road Landfill. This report is for the period of July 1, 2015 thru December 31, 2015. This report was prepared per the requirements specified in the above referenced UAO's and per the frequency approved by USEPA on May 10, 2004.

**1.0 DESCRIPTION OF TASKS/ACTIONS PERFORMED IN ACCORDANCE WITH  
UAO V-W-98-C-466 DURING THIS REPORTING PERIOD**

The following submittals were made:

07/31/15 – SA Progress Report  
07/10/15 – SA GW Report  
10/7/15 – GW Sampling Notification  
11/2/15 – AOS Invoice Payment

**2.0 SUMMARY OF WORK COMPLETED (07/15-12/15)**

The following occurred:

Quarterly inspection – 09/21/15  
2nd SA GW event – 11/05/15  
Quarterly inspection – 12/11/15

LEACHATE SUMMARY	
July	0 gals
August	0 gals
September	4,000 gals
October	0 gals
November	0 gals
December	0 gals
Total	4,000 gals

GAS WELL TUNING	
3 Qtr	9/18/15
4 Qtr	12/11/15

The (09/21/15; 12/11/15) quarterly inspections and (09/21/15; 12/11/15) gas probe monitoring forms are attached. See attached system downtime and maintenance reports.

### **3.0 90 DAY SCHEDULE(S) WORK PLANNED (01/16-06/16)**

The next semi-annual report submittal is in July 2016.

Qtrly inspection – 03/16  
Qtrly gas probes – 03/16  
Annual Report – 04/16  
1st SA GW event – 05/16  
Qtrly inspection - 06/16  
Qtrly gas probes – 06/16  
SA Progress Report – 07/16

#### **4.0 SCHEDULE VARIANCES FROM APPROVED RA PROJECT SCHEDULE**

No significant activity this reporting period.

#### **5.0 SUMMARY OF GROUNDWATER ACTIVITY PER UAO V-W-98-C-465 DURING THIS PERIOD**

No significant activity.

#### **6.0 SUMMARY AND DISCUSSION OF ALL APPROVED AND UNAPPROVED CHANGES MADE IN THE RA DURING THIS PERIOD**

WM turned off the leachate pumps at the extraction wells and began the MNA pilot study on February 3, 2015. The pilot study will continue for two years per the workplan.

#### **7.0 SUMMARY OF PROBLEMS/DELAYS OR POTENTIAL PROBLEMS/DELAYS ENCOUNTERED DURING THIS PERIOD**

No significant issues.

#### **8.0 ACTIONS BEING TAKEN TO RECTIFY PROBLEMS/DELAYS**

See attached downtime reports.

#### **9.0 CHANGES IN PERSONNEL DURING THIS REPORTING PERIOD**

No changes in personnel.

#### **10.0 PROJECTED WORK FOR THE NEXT REPORTING PERIOD**

See items in Section 3 above.

#### **11.0 COPIES OF REPORTS AND SAMPLING RESULTS GENERATED DURING THIS PERIOD**

See attached downtime, gas and quarterly inspection reports.

Please contact Robin Jones regarding this submittal at 937-318-5342 or at [rjones2@wm.com](mailto:rjones2@wm.com).

Respectfully,

A handwritten signature in black ink, appearing to read "Robin L. Jones", with a stylized flourish at the end.

Robin L. Jones  
District Manager  
WM Closed Sites  
Powell Road Landfill Project Coordinator

attachment

cc. Scott Glum, OEPA/SWDO/DERR  
PRL Distribution



**APPENDIX B.**

**POST-CLOSURE QUARTERLY INSPECTION FORMS  
(AND RELATED SYSTEMS INSPECTION AND  
MAINTENANCE FORMS)**

**POST-CLOSURE QUARTERLY INSPECTION FORM****Powell Road Landfill**

<b>Date:</b>	3/5/2015	<b>Last Inspection Date:</b>	12/22/2014
<b>Landfill Type:</b>	Closed Municipal/CERCLA	<b>Evaluator:</b>	TOM MILLER
<b>Total Acreage: 76</b>	76	<b>Filled Acreage:</b>	38
<b>Date Closed: 1984</b>	1984	<b>Date Capped:</b>	1985 - 2000

	GOOD	ADEQUATE	ATTENTION	NOT APPLICABLE
<b>SECURITY &amp; ACCESS:</b>				
1. Perimeter Fencing		√		
2. Signs Posted	√			
3. Access Road	√			
4. Undesirable Uses Prevented	√			
<b>COVER &amp; VEGETATION:</b>				
1. Final Cover Erosion	√			
2. Top Slope Good Drainage	√			
3. Side Slope Good Drainage	√			
4. Evidence of Gas or Leachate	√			
5. Vegetation Quality & Density	√			
<b>DRAINAGE:</b>				
1. Appropriate Runoff Controls		√		
2. Diversion Ditches		√		
3. Perimeter Ditches		√		
4. Perimeter Stone		√		
5. Outlet Structures		√		
6. Roads	√			
<b>GW MONITORING WELLS:</b>				
1. Construction Integrity	√			
2. Security of Wells	√			
3. Identification of Wells	√			
<b>LEACHATE &amp; GAS SYSTEMS:</b>				
1. Collection Sumps/Risers	√			
2. Electrical Components	√			
3. Leachate Pad Loading	√			
4. Storage Tank	√			
5. Security of System		√		
6. Flare/Blower Operation	√			
7. Extraction Wells/Pumps	√			
8. Mechanical Components	√			
9. Gas Probes	√			
9. Evidence of Odors/Migration	√			
10. Autodialer	√			

COMMENTS:

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# Fence, Signs, Gates, and Locks Inspection Sheet

Landfill Identification: Powell Rd Landfill Owner/Client: Robin Jones  
 Technician: TOM MILLER Landfill Location: Huber Heights  
 Date of Inspection: March 5, 2015

Property Perimeter Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:		√	See Below
Are all fence panels in good condition (no breaks in the fence):	√		No Comments
Are all fence panels securely fastened to all fence posts:	√		No Comments
Does the fence have barb wire runners installed atop the fence:	√		No Comments
If so, are all barb wire hangers in good condition and in place:	√		No Comments
And are all barb wire strands in good condition and in place:	√		No Comments
Are there any signs of trespassing:		√	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		√	No Comments
Are all required signs attached to the fence in 150 ft intervals:	√		No Comments
Are all signs clearly legible and in good condition:	√		No Comments
Are all fence panels and barb wire runners clear of vegetation:	√		No Comments

Flare / UST Station Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:	√		No Comments
Are all fence panels in good condition (no breaks in the fence):	√		No Comments
Are all fence panels securely fastened to all fence posts:	√		No Comments
Does the fence have barb wire runners installed atop the fence:	√		No Comments
If so, are all barb wire hangers in good condition and in place:	√		No Comments
And are all barb wire strands in good condition and in place:	√		No Comments
Are there any signs of trespassing:		√	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		√	No Comments
Are all required signs attached to the fence in 150 ft intervals:	√		No Comments
Are all signs clearly legible and in good condition:	√		No Comments
Are all fence panels and barb wire runners clear of vegetation:	√		No Comments

Man way and Main Site Entrance Gates Inspection Data:	Yes	No	Comments
Are all gates in good condition:	√		No Comments
Are all gate hinges in good condition:	√		No Comments
Do all gates close completely and evenly:	√		No Comments
Are all gates locked only with approved site locks:	√		No Comments
Are all security chains heavy duty & in good condition:	√		No Comments
Are all security chains tightly wrapped twice around the gate & the support pole:	√		No Comments
Are all required signs attached to the main entrance site gate(s):	√		No Comments
Are all required signs attached to the man way gate(s):	√		No Comments

Additional Comments:	
Fence along river is leaning due to trees falling but are not in need of repair at this time	

# SURFACE WATER CONTROL INSPECTION LOG

Date Filed: \_\_\_\_\_

Ohio EPA Storm Water Construction General Permit No. \_\_\_\_\_  
Powell Road Landfill, Montgomery County, Ohio

Date of Inspection: 3/5/15

Name of Inspector & Title: \_\_\_\_\_ TOM MILLER-LANDFILL SUPERVISOR

Affiliation: \_\_\_\_\_ WM EMPLOYEE

Qualifications \_\_\_\_\_

Weather Conditions: \_\_\_\_\_ Snow cover 19 Degrees

Completely fill in the information required below and sign where noted. Forward to Remedial Project Manager for filing.

1. Are measures to prevent erosion and sediment control adequate and properly implemented: YES  
(If no, describe observations, repairs needed, design changes needed, or other actions below.)
2. Are non structural practices (surface grading, vegetative cover, mulch, channel riprap) adequate: YES
3. Are structural practices (silt fencing and ditch checks) adequate: N/A

**Observations** (NOTE: location, problem, erosion, sediment build up, damage, etc.):

**A. Stabilization/Nonstructural Practices.**

1. Surface Grading: \_\_\_\_\_ In good condition

Actions to correct problem: \_\_\_\_\_ N/A

2. Vegetative Cover \_\_\_\_\_ In good condition

Actions to correct problem: \_\_\_\_\_ N/A

3. Erosion Control Blanket and Mulch(NOTE: erosion control blankets and mulch are temporary controls and are designed to degrade overtime) \_\_\_\_\_ In good condition

Actions to correct problem: \_\_\_\_\_ N/A

Riprap Channel Lining: \_\_\_\_\_ In good condition

Inspection Log - Cont.

Date: 3/5/2015

Actions to correct problem: N/A

B. Structural Practices.

1. Silt fencing (NOTE: silt fencing is designed as a temporary control measure and will be removed once the vegetation is established): N/A

Actions to correct problems: N/A

2. Ditch checks (NOTE: ditch checks are designed as a temporary control measure and will be removed once the vegetation is established): In good condition

Actions to correct problems: N/A

- C. Discharge locations (NOTE: any discharge of sediments off site): No

Actions to correct problems: N/A

- D. Vehicles Tracking Sediment Off-Site NO

Actions to correct problem: N/A

- E. Status of Previous Maintenance Activities (NOTE: location and problems):

Actions to correct problems: N/A

- F. Other Remarks: N/A

Inspector's Signature: Signature on file

Date: 3/5/2015

1 QTR  
Closed Site Management Group  
Landfill Systems Equipment  
Inspection Report

Date: 3/5/2015  
Inspector: T. Miller

Location: Powell Rd Landfill Huber Heights, OH

Landfill Gas Collection System:		Yes	No	N/A	Comments
LFG Blower	Operating	x			
	Vibrations Noticed		x		
	Properly Greased	x			
	Excessive Noise		x		
Blower Motor	Properly Greased	x			
	Excessive Noise		x		
LFG Flare	Operating Properly	x			
	Igniter Functioning Properly	x			
	Pilot Fuel Operating Properly	x			
	Propane Supply Adequate	x			
Control Panel	Temperature Display Present	x			
	Display Lights Functioning	x			
	Blower Amps Functioning	x			
	Omnisite Ready / Functioning		x		
Electric Valves	Open During Operation	x			Ordered new valve, Installation will occur in the first quarter of 2015
	Closed During Shut-Down	x			

Date: 3/5/2015  
Inspector: T. Miller

Location: Powell Rd Landfill Huber Heights, OH

Air Supply:

Compressor	Maintaining Pressure	Yes			None
	Vibrations Noticed		No		None
	Proper Oil Level	Yes			None
	Excessive Noise		No		None

Leachate System:

Pump Stations	Sump Pumps Functioning		No		East and West Sump lines are frozen
	Fluids at an Acceptable Level	Yes			None
	Control Panel OK	Yes			None
	Air Supply OK	Yes			None
Storage Tank	Fluids at an Acceptable Level	Yes			None
	Proper Valve operation	Yes			None

LFG Dual Extraction Wells:

LFG Wells	Wellhead in Good Condition			Attn	Kanaflex needs to be replaced through out the field
	Pump Connections Secure	Yes			None
	Proper Air Supply		No		System is off Line
	Cycle Counter Functioning		No		System is off Line
	Observed Pump Cycle		No		System is off Line

Comments:


**POST-CLOSURE QUARTERLY INSPECTION FORM**  
**Powell Road Landfill**

<b>Date:</b>	6/16/2015	<b>Last Inspection Date:</b>	3/5/2015
<b>Landfill Type:</b>	Closed Municipal/CERCLA	<b>Evaluator:</b>	TOM MILLER
<b>Total Acreage: 76</b>	76	<b>Filled Acreage:</b>	38
<b>Date Closed: 1984</b>	1984	<b>Date Capped:</b>	1985 - 2000

	GOOD	ADEQUATE	ATTENTION	NOT APPLICABLE
<b>SECURITY &amp; ACCESS:</b>				
1. Perimeter Fencing		√		
2. Signs Posted	√			
3. Access Road	√			
4. Undesirable Uses Prevented	√			
<b>COVER &amp; VEGETATION:</b>				
1. Final Cover Erosion	√			
2. Top Slope Good Drainage	√			
3. Side Slope Good Drainage	√			
4. Evidence of Gas or Leachate	√			
5. Vegetation Quality & Density	√			
<b>DRAINAGE:</b>				
1. Appropriate Runoff Controls		√		
2. Diversion Ditches		√		
3. Perimeter Ditches		√		
4. Perimeter Stone		√		
5. Outlet Structures		√		
6. Roads	√			
<b>GW MONITORING WELLS:</b>				
1. Construction Integrity	√			
2. Security of Wells	√			
3. Identification of Wells	√			
<b>LEACHATE &amp; GAS SYSTEMS:</b>				
1. Collection Sumps/Risers	√			
2. Electrical Components	√			
3. Leachate Pad Loading	√			
4. Storage Tank	√			
5. Security of System		√		
6. Flare/Blower Operation	√			
7. Extraction Wells/Pumps	√			
8. Mechanical Components	√			
9. Gas Probes	√			
9. Evidence of Odors/Migration	√			
10. Autodialer	√			

COMMENTS:



# Fence, Signs, Gates, and Locks Inspection Sheet

Landfill Identification: Powell Rd Landfill Owner/Client: Robin Jones  
 Technician: TOM MILLER Landfill Location: Huber Heights  
 Date of Inspection: June 16, 2015

Property Perimeter Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:		√	See Below
Are all fence panels in good condition (no breaks in the fence):	√		No Comments
Are all fence panels securely fastened to all fence posts:	√		No Comments
Does the fence have barb wire runners installed atop the fence:	√		No Comments
If so, are all barb wire hangers in good condition and in place:	√		No Comments
And are all barb wire strands in good condition and in place:	√		No Comments
Are there any signs of trespassing:		√	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		√	No Comments
Are all required signs attached to the fence in 150 ft intervals:	√		No Comments
Are all signs clearly legible and in good condition:	√		No Comments
Are all fence panels and barb wire runners clear of vegetation:	√		No Comments

Flare / UST Station Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:	√		No Comments
Are all fence panels in good condition (no breaks in the fence):	√		No Comments
Are all fence panels securely fastened to all fence posts:	√		No Comments
Does the fence have barb wire runners installed atop the fence:	√		No Comments
If so, are all barb wire hangers in good condition and in place:	√		No Comments
And are all barb wire strands in good condition and in place:	√		No Comments
Are there any signs of trespassing:		√	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		√	No Comments
Are all required signs attached to the fence in 150 ft intervals:	√		No Comments
Are all signs clearly legible and in good condition:	√		No Comments
Are all fence panels and barb wire runners clear of vegetation:	√		No Comments

Man way and Main Site Entrance Gates Inspection Data:	Yes	No	Comments
Are all gates in good condition:	√		No Comments
Are all gate hinges in good condition:	√		No Comments
Do all gates close completely and evenly:	√		No Comments
Are all gates locked only with approved site locks:	√		No Comments
Are all security chains heavy duty & in good condition:	√		No Comments
Are all security chains tightly wrapped twice around the gate & the support pole:	√		No Comments
Are all required signs attached to the main entrance site gate(s):	√		No Comments
Are all required signs attached to the man way gate(s):	√		No Comments

Additional Comments:	
South fence along river is leaning from trees falling but is not in need of repair at this time	



# SURFACE WATER CONTROL INSPECTION LOG

Date Filed: \_\_\_\_\_

Ohio EPA Storm Water Construction General Permit No. \_\_\_\_\_  
Powell Road Landfill, Montgomery County, Ohio

Date of Inspection: 6/16/15

Name of Inspector & Title: \_\_\_\_\_ TOM MILLER-LANDFILL SUPERVISOR

Affiliation: \_\_\_\_\_ WM EMPLOYEE

Qualifications \_\_\_\_\_

Weather Conditions: \_\_\_\_\_ 78 Rain

Completely fill in the information required below and sign where noted. Forward to Remedial Project Manager for filing.

1. Are measures to prevent erosion and sediment control adequate and properly implemented: YES  
(If no, describe observations, repairs needed, design changes needed, or other actions below.)
2. Are non structural practices (surface grading, vegetative cover, mulch, channel riprap) adequate: YES
3. Are structural practices (silt fencing and ditch checks) adequate: N/A

**Observations** (NOTE: location, problem, erosion, sediment build up, damage, etc.):

**A. Stabilization/Nonstructural Practices.**

1. Surface Grading: \_\_\_\_\_ In good condition

Actions to correct problem: \_\_\_\_\_ N/A

2. Vegetative Cover \_\_\_\_\_ In good condition

Actions to correct problem: \_\_\_\_\_ N/A

3. Erosion Control Blanket and Mulch (NOTE: erosion control blankets and mulch are temporary controls and are designed to degrade overtime) \_\_\_\_\_ In good condition

Actions to correct problem: \_\_\_\_\_ N/A

Riprap Channel Lining: \_\_\_\_\_ In good condition

Inspection Log - Cont.

Date: 6/16/2015

Actions to correct problem: N/A

B. Structural Practices.

1. Silt fencing (NOTE: silt fencing is designed as a temporary control measure and will be removed once the vegetation is established): N/A

Actions to correct problems: N/A

2. Ditch checks (NOTE: ditch checks are designed as a temporary control measure and will be removed once the vegetation is established): In good condition

Actions to correct problems: N/A

- C. Discharge locations (NOTE: any discharge of sediments off site): No

Actions to correct problems: N/A

- D. Vehicles Tracking Sediment Off-Site NO

Actions to correct problem: N/A

- E. Status of Previous Maintenance Activities (NOTE: location and problems):

Actions to correct problems: N/A

- F. Other Remarks: N/A

Inspector's Signature: Signature on file

Date: 6/16/2015

Qr  
Closed Site Management Group  
Landfill Systems Equipment  
Inspection Report

Date: 6/16/2015  
Inspector: T. Miller

Location: Powell Rd Landfill Huber Heights, OH

Landfill Gas Collection System:		Yes	No	N/A	Comments
LFG Blower	Operating	x			
	Vibrations Noticed		x		
	Properly Greased	x			
	Excessive Noise		x		
Blower Motor	Properly Greased	x			
	Excessive Noise		x		
LFG Flare	Operating Properly	x			
	Igniter Functioning Properly	x			
	Pilot Fuel Operating Properly	x			
	Propane Supply Adequate	x			
Control Panel	Temperature Display Present	x			
	Display Lights Functioning	x			
	Blower Amps Functioning	x			
	Omnisite Ready / Functioning		x		
Electric Valves	Open During Operation	x			
	Closed During Shut-Down	x			

Date: 6/16/2015  
Inspector: T Miller

Location: Powell Rd Landfill Huber Heights, OH

**Air Supply:**

Compressor	Maintaining Pressure	Yes			None
	Vibrations Noticed		No		None
	Proper Oil Level	Yes			None
	Excessive Noise		No		None

**Leachate System:**

Pump Stations	Sump Pumps Functioning	Yes			
	Fluids at an Acceptable Level	Yes			None
	Control Panel OK	Yes			None
	Air Supply OK	Yes			None
Storage Tank	Fluids at an Acceptable Level	Yes			None
	Proper Valve operation	Yes			None

**LFG Dual Extraction Wells:**

LFG Wells	Wellhead in Good Condition			Attn	Replacing kanaflex through out the field
	Pump Connections Secure	Yes			System is off Line
	Proper Air Supply		No		System is off Line
	Cycle Counter Functioning		No		System is off Line
	Observed Pump Cycle		No		System is off Line

Comments: SAS began removal of pumps from the system.


**POST-CLOSURE QUARTERLY INSPECTION FORM**  
**Powell Road Landfill**

<b>Date:</b>	9/21/2015	<b>Last Inspection Date:</b>	6/16/2015
<b>Landfill Type:</b>	Closed Municipal/CERCLA	<b>Evaluator:</b>	TOM MILLER
<b>Total Acreage: 76</b>	76	<b>Filled Acreage:</b>	38
<b>Date Closed: 1984</b>	1984	<b>Date Capped:</b>	1985 - 2000

	GOOD	ADEQUATE	ATTENTION	NOT APPLICABLE
<b>SECURITY &amp; ACCESS:</b>				
1. Perimeter Fencing		√		
2. Signs Posted	√			
3. Access Road	√			
4. Undesirable Uses Prevented	√			
<b>COVER &amp; VEGETATION:</b>				
1. Final Cover Erosion	√			
2. Top Slope Good Drainage	√			
3. Side Slope Good Drainage	√			
4. Evidence of Gas or Leachate	√			
5. Vegetation Quality & Density	√			
<b>DRAINAGE:</b>				
1. Appropriate Runoff Controls		√		
2. Diversion Ditches		√		
3. Perimeter Ditches		√		
4. Perimeter Stone		√		
5. Outlet Structures		√		
6. Roads	√			
<b>GW MONITORING WELLS:</b>				
1. Construction Integrity	√			
2. Security of Wells	√			
3. Identification of Wells	√			
<b>LEACHATE &amp; GAS SYSTEMS:</b>				
1. Collection Sumps/Risers	√			
2. Electrical Components	√			
3. Leachate Pad Loading	√			
4. Storage Tank	√			
5. Security of System		√		
6. Flare/Blower Operation	√			
7. Extraction Wells/Pumps	√			
8. Mechanical Components	√			
9. Gas Probes	√			
9. Evidence of Odors/Migration	√			
10. Autodialer	√			

COMMENTS:


# Fence, Signs, Gates, and Locks Inspection Sheet

Landfill Identification: Powell Rd Landfill Owner/Client: Robin Jones  
 Technician: TOM MILLER Landfill Location: Huber Heights  
 Date of Inspection: September 21, 2015

Property Perimeter Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:		√	See Below
Are all fence panels in good condition (no breaks in the fence):	√		No Comments
Are all fence panels securely fastened to all fence posts:	√		No Comments
Does the fence have barb wire runners installed atop the fence:	√		No Comments
If so, are all barb wire hangers in good condition and in place:	√		No Comments
And are all barb wire strands in good condition and in place:	√		No Comments
Are there any signs of trespassing:		√	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		√	No Comments
Are all required signs attached to the fence in 150 ft intervals:	√		No Comments
Are all signs clearly legible and in good condition:	√		No Comments
Are all fence panels and barb wire runners clear of vegetation:	√		No Comments

Flare / UST Station Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:	√		No Comments
Are all fence panels in good condition (no breaks in the fence):	√		No Comments
Are all fence panels securely fastened to all fence posts:	√		No Comments
Does the fence have barb wire runners installed atop the fence:	√		No Comments
If so, are all barb wire hangers in good condition and in place:	√		No Comments
And are all barb wire strands in good condition and in place:	√		No Comments
Are there any signs of trespassing:		√	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		√	No Comments
Are all required signs attached to the fence in 150 ft intervals:	√		No Comments
Are all signs clearly legible and in good condition:	√		No Comments
Are all fence panels and barb wire runners clear of vegetation:	√		No Comments

Man way and Main Site Entrance Gates Inspection Data:	Yes	No	Comments
Are all gates in good condition:	√		No Comments
Are all gate hinges in good condition:	√		No Comments
Do all gates close completely and evenly:	√		No Comments
Are all gates locked only with approved site locks:	√		No Comments
Are all security chains heavy duty & in good condition:	√		No Comments
Are all security chains tightly wrapped twice around the gate & the support pole:	√		No Comments
Are all required signs attached to the main entrance site gate(s):	√		No Comments
Are all required signs attached to the man way gate(s):	√		No Comments

Additional Comments: South fence along river is leaning due to trees falling but is not in need of repair at this time.  
Minor damage to north fence along Powell Rd Repairs scheduled for 4th Qtr.

# SURFACE WATER CONTROL INSPECTION LOG

Date Filed: \_\_\_\_\_

Ohio EPA Storm Water Construction General Permit No. \_\_\_\_\_  
Powell Road Landfill, Montgomery County, Ohio

Date of Inspection: 9/21/15

Name of Inspector & Title: \_\_\_\_\_ TOM MILLER-LANDFILL SUPERVISOR

Affiliation: \_\_\_\_\_ WM EMPLOYEE

Qualifications \_\_\_\_\_

Weather Conditions: \_\_\_\_\_ 77 dry

Completely fill in the information required below and sign where noted. Forward to Remedial Project Manager for filing.

1. Are measures to prevent erosion and sediment control adequate and properly implemented: YES  
(If no, describe observations, repairs needed, design changes needed, or other actions below.)
2. Are non structural practices (surface grading, vegetative cover, mulch, channel riprap) adequate: YES
3. Are structural practices (silt fencing and ditch checks) adeq N/A

**Observations** (NOTE: location, problem, erosion, sediment build up, damage, etc.):

A. Stabilization/Nonstructural Practices.

1. Surface Grading: \_\_\_\_\_ In good condition

Actions to correct problem: \_\_\_\_\_ N/A

2. Vegetative Cover \_\_\_\_\_ In good condition

Actions to correct problem: \_\_\_\_\_ N/A

3. Erosion Control Blanket and Mulch(NOTE: erosion control blankets and mulch are temporary controls and are designed to degrade overtime) \_\_\_\_\_ In good condition

Actions to correct problem: \_\_\_\_\_ N/A

Riprap Channel Lining: \_\_\_\_\_ In good condition

Inspection Log - Cont.

Date: 9/21/2015

Actions to correct problem: N/A

B. Structural Practices.

1. Silt fencing (NOTE: silt fencing is designed as a temporary control measure and will be removed once the vegetation is established): N/A

Actions to correct problems: N/A

2. Ditch checks (NOTE: ditch checks are designed as a temporary control measure and will be removed once the vegetation is established): In good condition

Actions to correct problems: N/A

- C. Discharge locations (NOTE: any discharge of sediments off site): No

Actions to correct problems: N/A

- D. Vehicles Tracking Sediment Off-Site NO

Actions to correct problem: N/A

- E. Status of Previous Maintenance Activities (NOTE: location and problems):

Actions to correct problems: N/A

- F. Other Remarks: N/A

Inspector's Signature: Signature on file

Date: 9/21/2015

Quarterly  
Powell Road Landfill  
Landfill Systems Equipment  
Inspection Report

Date: 9/18/2015  
Inspector: T. Miller

Location: Powell Rd Landfill Huber Heights, OH

Landfill Gas Collection System:		Yes	No	N/A	Comments
LFG Blower	Operating	X			
	Vibrations Noticed		x		
	Properly Greased	x			
	Excessive Noise		x		
Blower Motor	Properly Greased	x			
	Excessive Noise		x		
LFG Flare	Operating Properly	x			
	Igniter Functioning Properly	x			
	Pilot Fuel Operating Properly	x			
	Propane Supply Adequate	x			
Control Panel	Temperature Display Present	x			
	Display Lights Functioning	x			
	Blower Amps Functioning	x			
	Omnisite Ready / Functioning	x			
Electric Valves	Open During Operation	x			
	Closed During Shut-Down	x			

Date: 9/18/2015  
Inspector: T Miller

Location: Powell Rd Landfill Huber Heights, OH

**Air Supply:**

Compressor	Maintaining Pressure	Yes			None
	Vibrations Noticed		No		None
	Proper Oil Level	Yes			None
	Excessive Noise		No		None

**Leachate System:**

Pump Stations	Sump Pumps Functioning	Yes			None
	Fluids at an Acceptable Level	Yes			None
	Control Panel OK	Yes			None
	Air Supply OK	Yes			None
Storage Tank	Fluids at an Acceptable Level	Yes			None
	Proper Valve operation	Yes			None

**LFG Dual Extraction Wells:**

LFG Wells	Wellhead in Good Condition	Yes			Kanaflex has been replaced on all wells
	Pump Connections Secure	N/A	N/A		System is off Line
	Proper Air Supply	N/A	N/A		System is off Line
	Cycle Counter Functioning	N/A	N/A		System is off Line
	Observed Pump Cycle	N/A	N/A		System is off Line

Comments:




**POST-CLOSURE QUARTERLY INSPECTION FORM**  
**Powell Road Landfill**

<b>Date:</b>	12/11/2015	<b>Last Inspection Date:</b>	9/21/2015
<b>Landfill Type:</b>	Closed Municipal/CERCLA	<b>Evaluator:</b>	TOM MILLER
<b>Total Acreage: 76</b>	76	<b>Filled Acreage:</b>	38
<b>Date Closed: 1984</b>	1984	<b>Date Capped:</b>	1985 - 2000

	GOOD	ADEQUATE	ATTENTION	NOT APPLICABLE
<b>SECURITY &amp; ACCESS:</b>				
1. Perimeter Fencing		√		
2. Signs Posted	√			
3. Access Road	√			
4. Undesirable Uses Prevented	√			
<b>COVER &amp; VEGETATION:</b>				
1. Final Cover Erosion	√			
2. Top Slope Good Drainage	√			
3. Side Slope Good Drainage	√			
4. Evidence of Gas or Leachate	√			
5. Vegetation Quality & Density	√			
<b>DRAINAGE:</b>				
1. Appropriate Runoff Controls		√		
2. Diversion Ditches		√		
3. Perimeter Ditches		√		
4. Perimeter Stone		√		
5. Outlet Structures		√		
6. Roads	√			
<b>GW MONITORING WELLS:</b>				
1. Construction Integrity	√			
2. Security of Wells	√			
3. Identification of Wells	√			
<b>LEACHATE &amp; GAS SYSTEMS:</b>				
1. Collection Sumps/Risers	√			
2. Electrical Components	√			
3. Leachate Pad Loading	√			
4. Storage Tank	√			
5. Security of System		√		
6. Flare/Blower Operation	√			
7. Extraction Wells/Pumps	√			
8. Mechanical Components	√			
9. Gas Probes	√			
9. Evidence of Odors/Migration	√			
10. Autodialer	√			

COMMENTS:


# Fence, Signs, Gates, and Locks Inspection Sheet

Landfill Identification: Powell Rd Landfill Owner/Client: Robin Jones  
 Technician: TOM MILLER Landfill Location: Huber Heights  
 Date of Inspection: December 11, 2015

Property Perimeter Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:	√		See Below
Are all fence panels in good condition (no breaks in the fence):	√		No Comments
Are all fence panels securely fastened to all fence posts:	√		No Comments
Does the fence have barb wire runners installed atop the fence:	√		No Comments
If so, are all barb wire hangers in good condition and in place:	√		No Comments
And are all barb wire strands in good condition and in place:	√		No Comments
Are there any signs of trespassing:		√	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		√	No Comments
Are all required signs attached to the fence in 150 ft intervals:	√		No Comments
Are all signs clearly legible and in good condition:	√		No Comments
Are all fence panels and barb wire runners clear of vegetation:	√		No Comments

Flare / UST Station Fence Inspection Data:	Yes	No	Comments
Are all fence posts straight & free of damage:	√		No Comments
Are all fence panels in good condition (no breaks in the fence):	√		No Comments
Are all fence panels securely fastened to all fence posts:	√		No Comments
Does the fence have barb wire runners installed atop the fence:	√		No Comments
If so, are all barb wire hangers in good condition and in place:	√		No Comments
And are all barb wire strands in good condition and in place:	√		No Comments
Are there any signs of trespassing:		√	No Comments
Are there any gaps in the fence between the ground & the bottom of the fence:		√	No Comments
Are all required signs attached to the fence in 150 ft intervals:	√		No Comments
Are all signs clearly legible and in good condition:	√		No Comments
Are all fence panels and barb wire runners clear of vegetation:	√		No Comments

Man way and Main Site Entrance Gates Inspection Data:	Yes	No	Comments
Are all gates in good condition:	√		No Comments
Are all gate hinges in good condition:	√		No Comments
Do all gates close completely and evenly:	√		No Comments
Are all gates locked only with approved site locks:	√		No Comments
Are all security chains heavy duty & in good condition:	√		No Comments
Are all security chains tightly wrapped twice around the gate & the support pole:	√		No Comments
Are all required signs attached to the main entrance site gate(s):	√		No Comments
Are all required signs attached to the man way gate(s):	√		No Comments

Additional Comments:	
South fence along river replaced today.	
Minor damage to fence along powell rd also repaired	

## SURFACE WATER CONTROL INSPECTION LOG

Date Filed: \_\_\_\_\_

Ohio EPA Storm Water Construction General Permit No. \_\_\_\_\_  
Powell Road Landfill, Montgomery County, Ohio

Date of Inspection: 12/11/15

Name of Inspector & Title: \_\_\_\_\_ TOM MILLER-LANDFILL SUPERVISOR \_\_\_\_\_

Affiliation: \_\_\_\_\_ WM EMPLOYEE \_\_\_\_\_

Qualifications \_\_\_\_\_

Weather Conditions: \_\_\_\_\_ 52 dry \_\_\_\_\_

Completely fill in the information required below and sign where noted. Forward to Remedial Project Manager for filing.

1. Are measures to prevent erosion and sediment control adequate and properly implemented: YES  
(If no, describe observations, repairs needed, design changes needed, or other actions below.)
2. Are non structural practices (surface grading, vegetative cover, mulch, channel riprap) adequate: YES
3. Are structural practices (silt fencing and ditch checks) adeq N/A

**Observations** (NOTE: location, problem, erosion, sediment build up, damage, etc.):

**A. Stabilization/Nonstructural Practices.**

1. Surface Grading: \_\_\_\_\_ In good condition \_\_\_\_\_

Actions to correct problem: \_\_\_\_\_ N/A \_\_\_\_\_

2. Vegetative Cover \_\_\_\_\_ In good condition \_\_\_\_\_

Actions to correct problem: \_\_\_\_\_ N/A \_\_\_\_\_

3. Erosion Control Blanket and Mulch(NOTE: erosion control blankets and mulch are temporary controls and are designed to degrade overtime) \_\_\_\_\_ In good condition \_\_\_\_\_

Actions to correct problem: \_\_\_\_\_ N/A \_\_\_\_\_

Riprap Channel Lining: \_\_\_\_\_ In good condition \_\_\_\_\_

Inspection Log - Cont.

Date: 12/11/2015

Actions to correct problem: N/A

B. Structural Practices.

1. Silt fencing (NOTE: silt fencing is designed as a temporary control measure and will be removed once the vegetation is established): N/A

Actions to correct problems: N/A

2. Ditch checks (NOTE: ditch checks are designed as a temporary control measure and will be removed once the vegetation is established): In good condition

Actions to correct problems: N/A

- C. Discharge locations (NOTE: any discharge of sediments off site): No

Actions to correct problems: N/A

- D. Vehicles Tracking Sediment Off-Site NO

Actions to correct problem: N/A

- E. Status of Previous Maintenance Activities (NOTE: location and problems):

Actions to correct problems: N/A

- F. Other Remarks: N/A

Inspector's Signature: Signature on file

Date: 12/11/2015

Quarterly  
Powell Road landfill  
Landfill Systems Equipment  
Inspection Report

Date: 12/11/2015  
Inspector: T. Miller

Location: Powell Rd Landfill Huber Heights, OH

**Landfill Gas Collection System:**

		Yes	No	N/A	Comments
LFG Blower	Operating	x			
	Vibrations Noticed		x		
	Properly Greased	x			
	Excessive Noise		x		
Blower Motor	Properly Greased	x			
	Excessive Noise		x		
LFG Flare	Operating Properly	x			
	Igniter Functioning Properly	x			
	Pilot Fuel Operating Properly	x			
	Propane Supply Adequate	x			
Control Panel	Temperature Display Present	x			
	Display Lights Functioning	x			
	Blower Amps Functioning	x			
	Omnisite Ready / Functioning	x			
Electric Valves	Open During Operation	x			
	Closed During Shut-Down	x			

**Air Supply:**

Compressor	Maintaining Pressure	Yes			None
	Vibrations Noticed		No		None
	Proper Oil Level	Yes			None
	Excessive Noise		No		None

**Leachate System:**

Pump Stations	Sump Pumps Functioning	Yes			None
	Fluids at an Acceptable Level	Yes			None
	Control Panel OK	Yes			None
	Air Supply OK	Yes			None
Storage Tank	Fluids at an Acceptable Level	Yes			None
	Proper Valve operation	Yes			None

**LFG Dual Extraction Wells:**

LFG Wells	Wellhead in Good Condition	Yes			Kanaflex has been replaced on all wells
	Pump Connections Secure	N/A	N/A		System is off Line
	Proper Air Supply	N/A	N/A		System is off Line
	Cycle Counter Functioning	N/A	N/A		System is off Line
	Observed Pump Cycle	N/A	N/A		System is off Line

**Comments:**


## **APPENDIX C.**

### **ENVIRONMENTAL COVENANT VERIFICATION**

ENVIRONMENTAL COVENANT COMPLIANCE REPORTING

POWELL ROAD LANDFILL, MONTGOMERY COUNTY, OHIO

U.S. EPA DOCKET NO. V-W-98-C-466 & V-W-98-C-465

This document has been prepared to fulfill the annual reporting requirement of the Environmental Covenant (EC) (Document SP-I-10-059281, Montgomery County, Ohio) for the Powell Road Landfill in accordance with Section 10 of the EC.

In 2015, Waste Management of Ohio, Inc. remained the owner of the Powell Road Landfill. The EC activity and use limitations remain in place and are in compliance with the EC.



Date: 3-23-16

Robin Jones

District Manager, WMO

## **APPENDIX D.**

### **AUTO-DIALER CALL OUT SUMMARIES, DOWNTIME REPORTS, AND AUTO-DIALER PROTOCOL**



- Status History for Waste Management -Cincinnati -  
Powell Rd  
Thursday, January 01, 2015 to Tuesday, March 31, 2015

**- Alarm History -**

Station	Device	Alarm Start	Alarm End	Alarm Duration	Flare Shutdown Time HR MM SS	Leachate Sys Shutdown Time HR MM.SS	Corrective Action
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Input: 75% UST Level

Powell Rd	25805	1/1/2015 11:59:19 PM	1/2/2015 8:49:08 AM	31789			
Powell Rd	25805	2/1/2015 5:06:57 PM	2/3/2015 2:16:50 PM	162593			
Powell Rd	25805						
Powell Rd	25805						
				53:59:42			

LCS Well Shutdown

Powell Rd	25805						

Input: Compressor Low Pressure

Powell Rd	25805						

Input: Pilot failure

Powell Rd	25805	3/6/2015 11:30:15	3/6/15 8:00:00 pm	8:29:15	8:29:15		
		3/7/15 8:00:00 am	3/7/15 8:00:00 pm	12:00:00	12:00:00		

Input: Primary Power

Powell Rd	25805						
Powell Rd	25805						
Powell Rd	25805						

Cycle Timer Shutdown (12Hrs. Daily)				HR:MM:SS		Automatic Flare Cycling Run 12Hrs off 12 Hrs on Daily
Jan Daily Shutdown				372:00:00		
Feb Daily Shutdown				336:00:00		
March Daily shutdown				372:00:00		
Total				1100:29:15		

*\*NOT ALL ALARMS SHUTDOWN THE SYSTEMS*

- Status History for Waste Management -Cincinnati -  
Powell Rd  
Wednesday, April 1, 2015 to Tuesday, June 30, 2015

**- Alarm History -**

Station	Device	Alarm Start	Alarm End	Alarm Duration (HR:MM:SS)	Flare Shutdown Time	Leachate Sys Shutdown Time	Corrective Action
Input: 75% UST Level							
Powell Rd	25805						
Powell Rd	25805						
Powell Rd	25805						
Powell Rd	25805						
LCS Well Shutdown							
Powell Rd	25805						
Input: Compressor Low Pressure							
Powell Rd	25805						
Input: Flare Failure							
Powell Rd	25805	6/19/2015 8:00	6/30/2015 20:00	144:00:00	144:00:00		LCS float was triggered do to extremely high river flooding
Input: Primary Power							
Powell Rd	25805						
Powell Rd	25805						
Powell Rd	25805						
Cycle Timer Shutdown (12Hrs. Daily)							
							Automatic Flare Cycling Run 12Hrs off 12 Hrs on Daily
April Daily Shutdown					360		
May Daily Shutdown					372		
June Daily shutdown					360		
Total					1206:00:00		

**\*NOT ALL ALARMS SHUTDOWN THE SYSTEMS**

- Status History for Waste Management -Cincinnati -  
Powell Rd  
Wednesday, July 01, 2015 to Wednesday, September 30, 2015

- Alarm History -				
Station	Device	Alarm Start	Alarm End	Alarm Duration
Input: Flare Failure				
Powell Rd	25805	7/17/2015 9:42:18 AM	7/17/2015 9:43:21 AM	63
Powell Rd	25805	7/18/2015 8:03:39 AM	7/18/2015 8:04:27 AM	48
Powell Rd	25805	7/19/2015 8:03:38 AM	7/19/2015 8:04:39 AM	61
Powell Rd	25805	7/20/2015 8:03:40 AM	7/20/2015 8:04:28 AM	48
Powell Rd	25805	7/21/2015 8:03:36 AM	7/21/2015 8:04:22 AM	46
Powell Rd	25805	7/22/2015 8:03:38 AM	7/22/2015 8:04:21 AM	43
Powell Rd	25805	7/23/2015 8:03:30 AM	7/23/2015 8:04:16 AM	46
Powell Rd	25805	7/24/2015 8:03:38 AM	7/24/2015 8:04:25 AM	47
Powell Rd	25805	7/25/2015 8:03:41 AM	7/25/2015 8:04:19 AM	38
Powell Rd	25805	7/26/2015 8:03:37 AM	7/26/2015 8:04:22 AM	45
Powell Rd	25805	7/27/2015 8:03:40 AM	7/27/2015 8:04:18 AM	38
Powell Rd	25805	7/28/2015 8:03:37 AM	7/28/2015 8:04:16 AM	39
Powell Rd	25805	7/29/2015 8:03:38 AM	7/29/2015 8:04:17 AM	39
Powell Rd	25805	7/30/2015 8:03:43 AM	7/30/2015 8:04:20 AM	37
Powell Rd	25805	8/3/2015 4:45:05 PM	8/3/2015 4:45:22 PM	17
Powell Rd	25805	8/3/2015 4:52:06 PM	8/3/2015 4:52:26 PM	20
Powell Rd	25805	8/3/2015 4:58:00 PM	8/3/2015 4:58:37 PM	37
Powell Rd	25805	8/5/2015 10:47:49 AM	8/5/2015 10:48:42 AM	53
Powell Rd	25805	8/5/2015 11:03:05 AM	8/5/2015 11:03:22 AM	17
Powell Rd	25805	8/5/2015 11:08:07 AM	8/5/2015 11:08:22 AM	15
Powell Rd	25805	8/5/2015 11:13:42 AM	8/5/2015 11:13:58 AM	16
Powell Rd	25805	8/5/2015 11:17:29 AM	8/5/2015 11:18:14 AM	45
Powell Rd	25805	8/5/2015 11:22:37 AM	8/5/2015 11:22:59 AM	22
Powell Rd	25805	8/5/2015 11:27:41 AM	8/5/2015 11:30:54 AM	193
Powell Rd	25805	8/7/2015 2:29:20 PM	8/7/2015 2:29:46 PM	26
Powell Rd	25805	8/8/2015 8:03:43 AM	8/8/2015 8:05:24 AM	101
Powell Rd	25805	8/8/2015 8:08:33 AM	8/8/2015 8:09:11 AM	38
Powell Rd	25805	8/8/2015 8:13:29 AM	8/8/2015 8:13:50 AM	21
Powell Rd	25805	8/8/2015 8:20:06 AM	8/8/2015 8:20:24 AM	18
Powell Rd	25805	8/8/2015 8:25:34 AM	8/8/2015 8:26:24 AM	50
Powell Rd	25805	8/8/2015 8:32:03 AM	8/8/2015 8:32:22 AM	19
Powell Rd	25805	8/8/2015 8:36:54 AM	8/8/2015 8:37:17 AM	23
Powell Rd	25805	8/8/2015 8:41:27 AM	8/8/2015 8:42:46 AM	79
Powell Rd	25805	8/8/2015 8:50:05 AM	8/8/2015 8:50:42 AM	37
Powell Rd	25805	8/8/2015 10:40:37 AM	8/8/2015 10:45:11 AM	274
Powell Rd	25805	8/8/2015 10:48:48 AM	8/8/2015 10:52:41 AM	233
Powell Rd	25805	8/8/2015 10:56:12 AM	8/8/2015 11:01:18 AM	306
Powell Rd	25805	8/8/2015 11:05:06 AM	8/8/2015 11:08:05 AM	179
Powell Rd	25805	8/8/2015 11:14:12 AM	8/8/2015 11:17:00 AM	168
Powell Rd	25805	8/8/2015 11:23:29 AM	8/8/2015 11:26:20 AM	171
Powell Rd	25805	8/8/2015 11:32:53 AM	8/8/2015 11:35:46 AM	173
Powell Rd	25805	8/8/2015 11:42:05 AM	8/8/2015 11:45:23 AM	198
Powell Rd	25805	8/8/2015 11:51:44 AM	8/8/2015 11:54:49 AM	185
Powell Rd	25805	8/8/2015 12:02:07 PM	8/8/2015 12:03:07 PM	60
Powell Rd	25805	8/8/2015 12:07:19 PM	8/8/2015 12:10:03 PM	164
Powell Rd	25805	8/8/2015 12:15:49 PM	8/8/2015 12:18:34 PM	165
Powell Rd	25805	8/8/2015 12:26:04 PM	8/8/2015 12:27:03 PM	59
Powell Rd	25805	8/8/2015 12:31:37 PM	8/8/2015 12:32:28 PM	51
Powell Rd	25805	8/8/2015 12:37:28 PM	8/8/2015 12:38:05 PM	37
Powell Rd	25805	8/8/2015 12:42:46 PM	8/8/2015 12:45:20 PM	154
Powell Rd	25805	8/8/2015 12:49:01 PM	8/8/2015 12:50:08 PM	67
Powell Rd	25805	8/8/2015 12:54:44 PM	8/8/2015 12:55:57 PM	73
Powell Rd	25805	8/8/2015 1:00:51 PM	8/8/2015 1:01:18 PM	27
Powell Rd	25805	8/8/2015 1:05:48 PM	8/8/2015 1:07:13 PM	85
Powell Rd	25805	8/8/2015 1:12:06 PM	8/8/2015 1:12:27 PM	21
Powell Rd	25805	8/8/2015 1:16:37 PM	8/8/2015 1:17:57 PM	80
Powell Rd	25805	8/8/2015 1:22:41 PM	8/8/2015 1:23:19 PM	38
Powell Rd	25805	8/8/2015 1:29:40 PM	8/8/2015 1:30:00 PM	20

Powell Rd	25805	8/8/2015 1:34:32 PM	8/8/2015 1:36:16 PM	104
Powell Rd	25805	8/8/2015 1:41:20 PM	8/8/2015 1:41:42 PM	22
Powell Rd	25805	8/8/2015 1:45:39 PM	8/8/2015 1:46:43 PM	64
Powell Rd	25805	8/8/2015 1:51:56 PM	8/8/2015 1:52:27 PM	31
Powell Rd	25805	8/8/2015 1:58:45 PM	8/8/2015 1:59:14 PM	29
Powell Rd	25805	8/8/2015 6:16:56 PM	8/8/2015 6:20:44 PM	228
Powell Rd	25805	8/8/2015 6:24:54 PM	8/8/2015 6:28:56 PM	242
Powell Rd	25805	8/8/2015 6:32:56 PM	8/8/2015 6:36:16 PM	200
Powell Rd	25805	8/8/2015 6:40:25 PM	8/8/2015 6:43:15 PM	170
Powell Rd	25805	8/8/2015 6:47:08 PM	8/8/2015 6:49:59 PM	171
Powell Rd	25805	8/8/2015 6:54:30 PM	8/8/2015 6:57:06 PM	156
Powell Rd	25805	8/8/2015 7:01:15 PM	8/8/2015 7:03:56 PM	161
Powell Rd	25805	8/8/2015 7:10:43 PM	8/8/2015 7:11:41 PM	58
Powell Rd	25805	8/8/2015 7:16:11 PM	8/8/2015 7:18:36 PM	145
Powell Rd	25805	8/8/2015 7:22:48 PM	8/8/2015 7:23:11 PM	23
Powell Rd	25805	8/8/2015 7:27:05 PM	8/8/2015 7:29:39 PM	154
Powell Rd	25805	8/8/2015 7:33:48 PM	8/8/2015 7:34:04 PM	16
Powell Rd	25805	8/8/2015 7:37:52 PM	8/8/2015 7:39:33 PM	101
Powell Rd	25805	8/8/2015 7:43:54 PM	8/8/2015 7:44:18 PM	24
Powell Rd	25805	8/8/2015 7:49:23 PM	8/8/2015 7:49:53 PM	30
Powell Rd	25805	8/8/2015 7:55:15 PM	8/8/2015 7:55:43 PM	28
Powell Rd	25805	8/8/2015 8:00:59 PM	8/8/2015 8:01:29 PM	30
Powell Rd	25805	8/9/2015 8:03:43 AM	8/9/2015 8:05:18 AM	95
Powell Rd	25805	8/9/2015 8:08:44 AM	8/9/2015 8:09:15 AM	31
Powell Rd	25805	8/9/2015 8:14:40 AM	8/9/2015 8:14:57 AM	17
Powell Rd	25805	8/9/2015 8:21:38 AM	8/9/2015 8:21:54 AM	16
Powell Rd	25805	8/9/2015 8:28:56 AM	8/9/2015 8:29:15 AM	19
Powell Rd	25805	8/9/2015 8:35:24 AM	8/9/2015 8:36:01 AM	37
Powell Rd	25805	8/9/2015 8:42:24 AM	8/9/2015 8:43:08 AM	44
Powell Rd	25805	8/9/2015 10:27:46 AM	8/9/2015 10:31:55 AM	249
Powell Rd	25805	8/9/2015 10:35:55 AM	8/9/2015 10:40:39 AM	284
Powell Rd	25805	8/9/2015 10:44:17 AM	8/9/2015 10:47:08 AM	171
Powell Rd	25805	8/9/2015 10:50:36 AM	8/9/2015 10:53:07 AM	151
Powell Rd	25805	8/9/2015 10:56:42 AM	8/9/2015 10:59:32 AM	170
Powell Rd	25805	8/9/2015 11:03:20 AM	8/9/2015 11:06:05 AM	165
Powell Rd	25805	8/9/2015 11:09:59 AM	8/9/2015 11:10:48 AM	49
Powell Rd	25805	8/9/2015 11:14:50 AM	8/9/2015 11:17:34 AM	164
Powell Rd	25805	8/9/2015 11:21:09 AM	8/9/2015 11:21:34 AM	25
Powell Rd	25805	8/9/2015 11:25:22 AM	8/9/2015 11:27:56 AM	154
Powell Rd	25805	8/9/2015 11:31:44 AM	8/9/2015 11:32:02 AM	18
Powell Rd	25805	8/9/2015 11:35:53 AM	8/9/2015 11:37:24 AM	91
Powell Rd	25805	8/9/2015 11:41:34 AM	8/9/2015 11:42:04 AM	30
Powell Rd	25805	8/9/2015 11:47:14 AM	8/9/2015 11:48:02 AM	48
Powell Rd	25805	8/9/2015 11:53:14 AM	8/9/2015 11:53:33 AM	19
Powell Rd	25805	8/9/2015 11:57:21 AM	8/9/2015 11:57:50 AM	29
Powell Rd	25805	8/9/2015 12:02:25 PM	8/9/2015 12:03:30 PM	65
Powell Rd	25805	8/9/2015 12:08:42 PM	8/9/2015 12:09:00 PM	18
Powell Rd	25805	8/9/2015 12:13:08 PM	8/9/2015 12:14:33 PM	85
Powell Rd	25805	8/9/2015 12:19:32 PM	8/9/2015 12:19:54 PM	22
Powell Rd	25805	8/9/2015 12:24:03 PM	8/9/2015 12:25:02 PM	59
Powell Rd	25805	8/9/2015 12:29:19 PM	8/9/2015 12:30:06 PM	47
Powell Rd	25805	8/9/2015 12:36:02 PM	8/9/2015 12:36:40 PM	38
Powell Rd	25805	8/9/2015 12:41:55 PM	8/9/2015 12:42:32 PM	37
Powell Rd	25805	8/10/2015 8:03:31 AM	8/10/2015 8:04:59 AM	88
Powell Rd	25805	8/10/2015 8:09:27 AM	8/10/2015 8:09:43 AM	16
Powell Rd	25805	8/10/2015 8:16:47 AM	8/10/2015 8:17:08 AM	21
Powell Rd	25805	8/11/2015 8:03:32 AM	8/11/2015 8:05:54 AM	142
Powell Rd	25805	8/11/2015 8:12:33 AM	8/11/2015 8:13:16 AM	43
Powell Rd	25805	8/11/2015 8:16:46 AM	8/11/2015 8:17:28 AM	42
Powell Rd	25805	8/11/2015 8:20:54 AM	8/11/2015 8:21:52 AM	58
Powell Rd	25805	8/11/2015 8:25:40 AM	8/11/2015 8:26:41 AM	61
Powell Rd	25805	8/11/2015 8:30:33 AM	8/11/2015 8:31:09 AM	36
Powell Rd	25805	8/11/2015 8:34:15 AM	8/11/2015 8:34:53 AM	38
Powell Rd	25805	8/11/2015 8:38:22 AM	8/11/2015 8:38:53 AM	31
Powell Rd	25805	8/11/2015 8:42:32 AM	8/11/2015 8:43:03 AM	31
Powell Rd	25805	8/11/2015 8:47:11 AM	8/11/2015 8:47:49 AM	38

Powell Rd	25805	8/12/2015 8:03:41 AM	8/12/2015 8:06:03 AM	142
Powell Rd	25805	8/12/2015 8:12:07 AM	8/12/2015 8:12:54 AM	47
Powell Rd	25805	8/12/2015 8:16:35 AM	8/12/2015 8:18:20 AM	105
Powell Rd	25805	8/12/2015 8:21:26 AM	8/12/2015 8:22:26 AM	60
Powell Rd	25805	8/12/2015 8:25:44 AM	8/12/2015 8:26:04 AM	20
Powell Rd	25805	8/12/2015 8:28:57 AM	8/12/2015 8:30:08 AM	71
Powell Rd	25805	8/12/2015 8:33:03 AM	8/12/2015 8:34:01 AM	58
Powell Rd	25805	8/12/2015 8:37:27 AM	8/12/2015 8:37:48 AM	21
Powell Rd	25805	8/12/2015 8:40:34 AM	8/12/2015 8:41:13 AM	39
Powell Rd	25805	8/12/2015 8:44:53 AM	8/12/2015 8:45:31 AM	38
Powell Rd	25805	8/12/2015 8:49:11 AM	8/12/2015 8:49:30 AM	19
Powell Rd	25805	8/12/2015 8:53:45 AM	8/12/2015 8:54:24 AM	39
Powell Rd	25805	8/13/2015 8:03:45 AM	8/13/2015 8:04:54 AM	69
Powell Rd	25805	8/13/2015 8:09:12 AM	8/13/2015 8:11:18 AM	126
Powell Rd	25805	8/13/2015 6:38:52 PM	8/13/2015 6:39:08 PM	16
Powell Rd	25805	8/14/2015 8:03:41 AM	8/14/2015 8:05:01 AM	80
Powell Rd	25805	8/14/2015 8:09:00 AM	8/14/2015 8:11:24 AM	144
Powell Rd	25805	8/15/2015 8:03:43 AM	8/15/2015 8:05:04 AM	81
Powell Rd	25805	8/15/2015 8:08:56 AM	8/15/2015 8:11:07 AM	131
Powell Rd	25805	8/16/2015 8:03:42 AM	8/16/2015 8:05:02 AM	80
Powell Rd	25805	8/16/2015 8:08:48 AM	8/16/2015 8:11:35 AM	167
Powell Rd	25805	8/16/2015 8:14:27 AM	8/16/2015 8:15:06 AM	39
Powell Rd	25805	8/16/2015 8:18:11 AM	8/16/2015 8:18:48 AM	37
Powell Rd	25805	8/17/2015 8:03:43 AM	8/17/2015 8:05:04 AM	81
Powell Rd	25805	8/17/2015 8:08:34 AM	8/17/2015 8:10:58 AM	144
Powell Rd	25805	8/18/2015 8:03:44 AM	8/18/2015 8:05:05 AM	81
Powell Rd	25805	8/18/2015 8:08:52 AM	8/18/2015 8:09:57 AM	65
Powell Rd	25805	8/18/2015 8:12:40 AM	8/18/2015 8:13:11 AM	31
Powell Rd	25805	8/19/2015 8:03:45 AM	8/19/2015 8:05:05 AM	80
Powell Rd	25805	8/19/2015 8:09:22 AM	8/19/2015 8:10:20 AM	58
Powell Rd	25805	8/19/2015 8:13:25 AM	8/19/2015 8:14:02 AM	37
Powell Rd	25805	8/20/2015 8:03:47 AM	8/20/2015 8:04:58 AM	71
Powell Rd	25805	8/20/2015 8:08:33 AM	8/20/2015 8:13:11 AM	278
Powell Rd	25805	8/21/2015 8:03:43 AM	8/21/2015 8:11:31 AM	468
Powell Rd	25805	8/21/2015 8:13:36 AM	8/21/2015 8:14:23 AM	47
Powell Rd	25805	8/21/2015 8:16:45 AM	8/21/2015 8:17:27 AM	42
Powell Rd	25805	8/22/2015 8:03:44 AM	8/22/2015 8:11:23 AM	459
Powell Rd	25805	8/22/2015 8:13:51 AM	8/22/2015 8:14:36 AM	45
Powell Rd	25805	8/22/2015 8:17:21 AM	8/22/2015 8:18:03 AM	42
Powell Rd	25805	8/23/2015 8:03:45 AM	8/23/2015 8:08:51 AM	306
Powell Rd	25805	8/23/2015 8:11:25 AM	8/23/2015 8:12:09 AM	44
Powell Rd	25805	8/23/2015 8:15:01 AM	8/23/2015 8:15:44 AM	43
Powell Rd	25805	8/24/2015 8:03:43 AM	8/24/2015 8:05:23 AM	100
Powell Rd	25805	8/24/2015 8:09:00 AM	8/24/2015 8:15:24 AM	384
Powell Rd	25805	8/24/2015 8:17:15 AM	8/24/2015 8:18:02 AM	47
Powell Rd	25805	8/24/2015 8:20:04 AM	8/24/2015 8:20:50 AM	46
Powell Rd	25805	8/25/2015 8:03:51 AM	8/25/2015 8:12:06 AM	495
Powell Rd	25805	8/25/2015 8:14:18 AM	8/25/2015 8:15:09 AM	51
Powell Rd	25805	8/25/2015 8:16:44 AM	8/25/2015 8:17:43 AM	59
Powell Rd	25805	8/25/2015 8:19:38 AM	8/25/2015 8:20:18 AM	40
Powell Rd	25805	8/25/2015 8:23:36 AM	8/25/2015 8:24:18 AM	42
Powell Rd	25805	8/26/2015 8:03:18 AM	8/26/2015 8:13:28 AM	610
Powell Rd	25805	8/26/2015 8:15:32 AM	8/26/2015 8:16:18 AM	46
Powell Rd	25805	8/26/2015 8:18:26 AM	8/26/2015 8:19:23 AM	57
Powell Rd	25805	8/26/2015 8:21:19 AM	8/26/2015 8:22:03 AM	44
Powell Rd	25805	8/26/2015 8:25:08 AM	8/26/2015 8:25:52 AM	44
Powell Rd	25805	8/27/2015 8:03:36 AM	8/27/2015 8:14:07 AM	631
Powell Rd	25805	8/27/2015 8:16:11 AM	8/27/2015 8:17:00 AM	49
Powell Rd	25805	8/27/2015 8:18:52 AM	8/27/2015 8:20:03 AM	71
Powell Rd	25805	8/27/2015 8:22:13 AM	8/27/2015 8:22:57 AM	44
Powell Rd	25805	8/27/2015 8:27:06 AM	8/27/2015 8:27:27 AM	21
Powell Rd	25805	8/27/2015 8:31:05 AM	8/27/2015 8:31:55 AM	50
Powell Rd	25805	8/27/2015 8:35:21 AM	8/27/2015 8:36:06 AM	45
Powell Rd	25805	8/28/2015 8:03:39 AM	8/28/2015 8:13:57 AM	618
Powell Rd	25805	8/28/2015 8:15:31 AM	8/28/2015 8:16:22 AM	51
Powell Rd	25805	8/28/2015 8:18:03 AM	8/28/2015 8:19:01 AM	58

Powell Rd	25805	8/28/2015 8:20:22 AM	8/28/2015 8:21:06 AM	44
Powell Rd	25805	8/28/2015 8:23:16 AM	8/28/2015 8:24:04 AM	48
Powell Rd	25805	8/28/2015 8:26:54 AM	8/28/2015 8:27:39 AM	45
Powell Rd	25805	8/29/2015 8:03:21 AM	8/29/2015 8:11:53 AM	512
Powell Rd	25805	8/29/2015 8:13:54 AM	8/29/2015 8:14:38 AM	44
Powell Rd	25805	8/29/2015 8:16:51 AM	8/29/2015 8:17:37 AM	46
Powell Rd	25805	8/29/2015 8:19:59 AM	8/29/2015 8:20:39 AM	40
Powell Rd	25805	8/29/2015 8:24:05 AM	8/29/2015 8:24:45 AM	40
Powell Rd	25805	8/29/2015 8:27:50 AM	8/29/2015 8:28:34 AM	44
Powell Rd	25805	8/30/2015 8:57:37 AM	8/30/2015 9:00:07 AM	150
Powell Rd	25805	8/30/2015 9:01:27 AM	8/30/2015 9:02:16 AM	49
Powell Rd	25805	8/30/2015 9:03:34 AM	8/30/2015 9:04:18 AM	44
Powell Rd	25805	8/30/2015 9:05:39 AM	8/30/2015 9:06:24 AM	45
Powell Rd	25805	8/30/2015 9:07:53 AM	8/30/2015 9:08:50 AM	57
Powell Rd	25805	8/30/2015 9:10:17 AM	8/30/2015 9:11:16 AM	59
Powell Rd	25805	8/30/2015 9:12:46 AM	8/30/2015 9:14:14 AM	88
Powell Rd	25805	8/30/2015 9:15:57 AM	8/30/2015 9:16:56 AM	59
Powell Rd	25805	8/30/2015 9:18:30 AM	8/30/2015 9:20:03 AM	93
Powell Rd	25805	8/30/2015 9:21:44 AM	8/30/2015 9:23:31 AM	107
Powell Rd	25805	8/30/2015 9:25:21 AM	8/30/2015 9:26:26 AM	65
Powell Rd	25805	8/30/2015 9:28:02 AM	8/30/2015 9:29:22 AM	80
Powell Rd	25805	8/30/2015 9:30:56 AM	8/30/2015 9:32:21 AM	85
Powell Rd	25805	8/30/2015 9:34:01 AM	8/30/2015 9:35:24 AM	83
Powell Rd	25805	8/30/2015 9:37:05 AM	8/30/2015 9:38:03 AM	58
Powell Rd	25805	8/30/2015 9:39:44 AM	8/30/2015 9:40:53 AM	69
Powell Rd	25805	8/30/2015 9:42:34 AM	8/30/2015 9:44:28 AM	114
Powell Rd	25805	8/30/2015 9:46:23 AM	8/30/2015 9:47:33 AM	70
Powell Rd	25805	8/30/2015 9:49:16 AM	8/30/2015 9:50:37 AM	81
Powell Rd	25805	8/30/2015 9:52:22 AM	8/30/2015 9:54:35 AM	133
Powell Rd	25805	8/30/2015 9:56:38 AM	8/30/2015 9:57:36 AM	58
Powell Rd	25805	8/30/2015 9:59:17 AM	8/30/2015 10:01:00 AM	103
Powell Rd	25805	8/30/2015 10:02:48 AM	8/30/2015 10:03:39 AM	51
Powell Rd	25805	8/30/2015 10:05:29 AM	8/30/2015 10:06:18 AM	49
Powell Rd	25805	8/30/2015 10:10:37 AM	8/30/2015 10:11:36 AM	59
Powell Rd	25805	8/30/2015 10:13:18 AM	8/30/2015 10:14:04 AM	46
Powell Rd	25805	8/30/2015 10:15:44 AM	8/30/2015 10:16:39 AM	55
Powell Rd	25805	8/30/2015 10:18:21 AM	8/30/2015 10:19:19 AM	58
Powell Rd	25805	8/30/2015 10:21:07 AM	8/30/2015 10:22:29 AM	82
Powell Rd	25805	8/30/2015 10:24:16 AM	8/30/2015 10:25:44 AM	88
Powell Rd	25805	8/30/2015 10:27:26 AM	8/30/2015 10:29:27 AM	121
Powell Rd	25805	8/30/2015 10:31:18 AM	8/30/2015 10:33:02 AM	104
Powell Rd	25805	8/30/2015 10:34:52 AM	8/30/2015 10:36:22 AM	90
Powell Rd	25805	8/30/2015 10:38:11 AM	8/30/2015 10:39:21 AM	70
Powell Rd	25805	8/30/2015 10:41:04 AM	8/30/2015 10:42:39 AM	95
Powell Rd	25805	8/30/2015 10:44:23 AM	8/30/2015 10:46:26 AM	123
Powell Rd	25805	8/30/2015 10:48:29 AM	8/30/2015 10:49:31 AM	62
Powell Rd	25805	8/30/2015 10:51:12 AM	8/30/2015 10:52:36 AM	84
Powell Rd	25805	8/30/2015 10:54:17 AM	8/30/2015 10:55:24 AM	67
Powell Rd	25805	8/30/2015 10:57:06 AM	8/30/2015 10:58:30 AM	84
Powell Rd	25805	8/30/2015 11:00:23 AM	8/30/2015 11:01:44 AM	81
Powell Rd	25805	8/30/2015 11:03:16 AM	8/30/2015 11:04:36 AM	80
Powell Rd	25805	8/30/2015 11:06:20 AM	8/30/2015 11:07:30 AM	70
Powell Rd	25805	8/30/2015 11:09:10 AM	8/30/2015 11:10:09 AM	59
Powell Rd	25805	8/30/2015 11:11:56 AM	8/30/2015 11:12:55 AM	59
Powell Rd	25805	8/30/2015 11:14:31 AM	8/30/2015 11:16:56 AM	145
Powell Rd	25805	8/30/2015 11:17:33 AM	8/30/2015 11:18:21 AM	48
Powell Rd	25805	8/30/2015 11:19:54 AM	8/30/2015 11:21:03 AM	69
Powell Rd	25805	8/30/2015 11:22:50 AM	8/30/2015 11:23:43 AM	53
Powell Rd	25805	8/30/2015 11:25:24 AM	8/30/2015 11:27:05 AM	101
Powell Rd	25805	8/30/2015 11:28:51 AM	8/30/2015 11:29:50 AM	59
Powell Rd	25805	8/30/2015 11:31:20 AM	8/30/2015 11:32:19 AM	59
Powell Rd	25805	8/30/2015 11:33:50 AM	8/30/2015 11:35:50 AM	120
Powell Rd	25805	8/30/2015 11:37:12 AM	8/30/2015 11:39:06 AM	114
Powell Rd	25805	8/30/2015 11:41:00 AM	8/30/2015 11:42:36 AM	96
Powell Rd	25805	8/30/2015 11:44:27 AM	8/30/2015 11:45:49 AM	82
Powell Rd	25805	8/30/2015 11:47:38 AM	8/30/2015 11:48:52 AM	74



Powell Rd	25805	8/30/2015 11:50:36 AM	8/30/2015 11:52:18 AM	102
Powell Rd	25805	8/30/2015 11:54:12 AM	8/30/2015 11:55:23 AM	71
Powell Rd	25805	8/30/2015 11:57:05 AM	8/30/2015 11:58:54 AM	109
Powell Rd	25805	8/30/2015 12:00:47 PM	8/30/2015 12:02:09 PM	82
Powell Rd	25805	8/30/2015 12:03:49 PM	8/30/2015 12:05:40 PM	111
Powell Rd	25805	8/30/2015 12:07:44 PM	8/30/2015 12:10:38 PM	174
Powell Rd	25805	8/30/2015 12:12:47 PM	8/30/2015 12:14:30 PM	103
Powell Rd	25805	8/30/2015 12:16:32 PM	8/30/2015 12:17:59 PM	87
Powell Rd	25805	8/30/2015 12:19:46 PM	8/30/2015 12:20:34 PM	48
Powell Rd	25805	8/30/2015 12:22:24 PM	8/30/2015 12:23:57 PM	93
Powell Rd	25805	8/30/2015 12:25:49 PM	8/30/2015 12:28:00 PM	131
Powell Rd	25805	8/30/2015 12:29:24 PM	8/30/2015 12:30:47 PM	83
Powell Rd	25805	8/30/2015 12:32:40 PM	8/30/2015 12:33:42 PM	62
Powell Rd	25805	8/30/2015 12:35:34 PM	8/30/2015 12:37:01 PM	87
Powell Rd	25805	8/30/2015 12:38:52 PM	8/30/2015 12:39:54 PM	62
Powell Rd	25805	8/30/2015 12:41:28 PM	8/30/2015 12:42:29 PM	61
Powell Rd	25805	8/30/2015 12:44:10 PM	8/30/2015 12:46:13 PM	123
Powell Rd	25805	8/30/2015 12:48:15 PM	8/30/2015 12:49:08 PM	53
Powell Rd	25805	8/30/2015 12:51:27 PM	8/30/2015 12:52:11 PM	44
Powell Rd	25805	8/30/2015 12:53:56 PM	8/30/2015 12:54:40 PM	44
Powell Rd	25805	8/30/2015 12:56:08 PM	8/30/2015 12:58:05 PM	117
Powell Rd	25805	8/30/2015 1:00:11 PM	8/30/2015 1:01:01 PM	50
Powell Rd	25805	8/30/2015 1:02:47 PM	8/30/2015 1:04:14 PM	87
Powell Rd	25805	8/30/2015 1:06:01 PM	8/30/2015 1:06:51 PM	50
Powell Rd	25805	8/30/2015 1:08:34 PM	8/30/2015 1:09:35 PM	61
Powell Rd	25805	8/30/2015 1:11:16 PM	8/30/2015 1:12:15 PM	59
Powell Rd	25805	8/30/2015 1:13:57 PM	8/30/2015 1:14:57 PM	60
Powell Rd	25805	8/30/2015 1:16:39 PM	8/30/2015 1:17:21 PM	42
Powell Rd	25805	8/30/2015 1:19:04 PM	8/30/2015 1:19:46 PM	42
Powell Rd	25805	8/30/2015 1:21:29 PM	8/30/2015 1:22:29 PM	60
Powell Rd	25805	8/30/2015 1:24:10 PM	8/30/2015 1:24:54 PM	44
Powell Rd	25805	8/30/2015 1:26:38 PM	8/30/2015 1:27:23 PM	45
Powell Rd	25805	8/30/2015 1:29:26 PM	8/30/2015 1:30:23 PM	57
Powell Rd	25805	8/30/2015 1:32:18 PM	8/30/2015 1:33:47 PM	89
Powell Rd	25805	8/30/2015 1:35:50 PM	8/30/2015 1:37:52 PM	122
Powell Rd	25805	8/30/2015 1:39:54 PM	8/30/2015 1:41:04 PM	70
Powell Rd	25805	8/30/2015 1:42:46 PM	8/30/2015 1:43:57 PM	71
Powell Rd	25805	8/30/2015 1:45:46 PM	8/30/2015 1:47:32 PM	106
Powell Rd	25805	8/30/2015 1:49:43 PM	8/30/2015 1:50:55 PM	72
Powell Rd	25805	8/30/2015 1:52:57 PM	8/30/2015 1:54:52 PM	115
Powell Rd	25805	8/30/2015 1:56:45 PM	8/30/2015 1:57:58 PM	73
Powell Rd	25805	8/30/2015 1:59:50 PM	8/30/2015 2:01:10 PM	80
Powell Rd	25805	8/30/2015 2:03:00 PM	8/30/2015 2:04:45 PM	105
Powell Rd	25805	8/30/2015 2:06:47 PM	8/30/2015 2:08:59 PM	132
Powell Rd	25805	8/30/2015 2:11:01 PM	8/30/2015 2:11:50 PM	49
Powell Rd	25805	8/30/2015 2:13:38 PM	8/30/2015 2:14:38 PM	60
Powell Rd	25805	8/30/2015 2:16:41 PM	8/30/2015 2:17:20 PM	39
Powell Rd	25805	8/30/2015 2:19:02 PM	8/30/2015 2:20:33 PM	91
Powell Rd	25805	8/30/2015 2:22:36 PM	8/30/2015 2:24:39 PM	123
Powell Rd	25805	8/30/2015 2:26:46 PM	8/30/2015 2:29:01 PM	135
Powell Rd	25805	8/30/2015 2:31:10 PM	8/30/2015 2:32:13 PM	63
Powell Rd	25805	8/30/2015 2:34:08 PM	8/30/2015 2:35:39 PM	91
Powell Rd	25805	8/30/2015 2:37:42 PM	8/30/2015 2:38:31 PM	49
Powell Rd	25805	8/30/2015 2:40:17 PM	8/30/2015 2:41:02 PM	45
Powell Rd	25805	8/30/2015 2:42:49 PM	8/30/2015 2:43:27 PM	38
Powell Rd	25805	8/30/2015 2:45:10 PM	8/30/2015 2:46:44 PM	94
Powell Rd	25805	8/30/2015 2:48:48 PM	8/30/2015 2:49:47 PM	59
Powell Rd	25805	8/30/2015 2:51:29 PM	8/30/2015 2:53:11 PM	102
Powell Rd	25805	8/30/2015 2:55:14 PM	8/30/2015 2:57:05 PM	111
Powell Rd	25805	8/30/2015 2:59:10 PM	8/30/2015 2:59:47 PM	37
Powell Rd	25805	8/30/2015 3:01:20 PM	8/30/2015 3:02:33 PM	73
Powell Rd	25805	8/30/2015 3:04:42 PM	8/30/2015 3:06:47 PM	125
Powell Rd	25805	8/30/2015 3:09:00 PM	8/30/2015 3:11:02 PM	122
Powell Rd	25805	8/30/2015 3:16:30 PM	8/30/2015 3:17:01 PM	31
Powell Rd	25805	8/30/2015 3:18:47 PM	8/30/2015 3:20:06 PM	79
Powell Rd	25805	8/30/2015 3:21:58 PM	8/30/2015 3:23:21 PM	83

Powell Rd	25805	8/30/2015 3:25:08 PM	8/30/2015 3:26:35 PM	87
Powell Rd	25805	8/30/2015 3:28:38 PM	8/30/2015 3:29:58 PM	80
Powell Rd	25805	8/30/2015 3:31:53 PM	8/30/2015 3:33:45 PM	112
Powell Rd	25805	8/30/2015 3:35:36 PM	8/30/2015 3:36:36 PM	60
Powell Rd	25805	8/30/2015 3:38:21 PM	8/30/2015 3:39:34 PM	73
Powell Rd	25805	8/30/2015 3:44:46 PM	8/30/2015 3:46:06 PM	80
Powell Rd	25805	8/30/2015 3:47:50 PM	8/30/2015 3:49:38 PM	108
Powell Rd	25805	8/30/2015 3:51:40 PM	8/30/2015 3:53:20 PM	100
Powell Rd	25805	8/30/2015 3:55:22 PM	8/30/2015 3:56:04 PM	42
Powell Rd	25805	8/30/2015 3:57:50 PM	8/30/2015 3:59:04 PM	74
Powell Rd	25805	8/30/2015 4:00:49 PM	8/30/2015 4:02:13 PM	84
Powell Rd	25805	8/30/2015 4:04:09 PM	8/30/2015 4:05:08 PM	59
Powell Rd	25805	8/30/2015 4:07:22 PM	8/30/2015 4:08:01 PM	39
Powell Rd	25805	8/30/2015 4:09:50 PM	8/30/2015 4:11:03 PM	73
Powell Rd	25805	8/30/2015 4:12:55 PM	8/30/2015 4:13:54 PM	59
Powell Rd	25805	8/30/2015 4:15:36 PM	8/30/2015 4:17:31 PM	115
Powell Rd	25805	8/30/2015 4:19:42 PM	8/30/2015 4:21:11 PM	89
Powell Rd	25805	8/30/2015 4:22:33 PM	8/30/2015 4:23:35 PM	62
Powell Rd	25805	8/30/2015 4:25:23 PM	8/30/2015 4:26:21 PM	58
Powell Rd	25805	8/30/2015 4:28:06 PM	8/30/2015 4:29:06 PM	60
Powell Rd	25805	8/30/2015 4:30:55 PM	8/30/2015 4:31:53 PM	58
Powell Rd	25805	8/30/2015 4:33:40 PM	8/30/2015 4:34:20 PM	40
Powell Rd	25805	8/30/2015 4:36:01 PM	8/30/2015 4:37:35 PM	94
Powell Rd	25805	8/30/2015 4:39:37 PM	8/30/2015 4:41:02 PM	85
Powell Rd	25805	8/30/2015 4:43:03 PM	8/30/2015 4:45:00 PM	117
Powell Rd	25805	8/30/2015 4:47:02 PM	8/30/2015 4:47:49 PM	47
Powell Rd	25805	8/30/2015 4:49:36 PM	8/30/2015 4:50:34 PM	58
Powell Rd	25805	8/30/2015 4:52:26 PM	8/30/2015 4:53:18 PM	52
Powell Rd	25805	8/30/2015 4:55:06 PM	8/30/2015 4:55:53 PM	47
Powell Rd	25805	8/30/2015 4:57:35 PM	8/30/2015 4:58:13 PM	38
Powell Rd	25805	8/30/2015 4:59:55 PM	8/30/2015 5:00:43 PM	48
Powell Rd	25805	8/30/2015 5:02:35 PM	8/30/2015 5:03:41 PM	66
Powell Rd	25805	8/30/2015 5:05:44 PM	8/30/2015 5:06:42 PM	58
Powell Rd	25805	8/30/2015 5:08:27 PM	8/30/2015 5:09:16 PM	49
Powell Rd	25805	8/30/2015 5:11:08 PM	8/30/2015 5:11:56 PM	48
Powell Rd	25805	8/30/2015 5:13:49 PM	8/30/2015 5:14:49 PM	60
Powell Rd	25805	8/30/2015 5:16:37 PM	8/30/2015 5:17:27 PM	50
Powell Rd	25805	8/30/2015 5:19:19 PM	8/30/2015 5:20:01 PM	42
Powell Rd	25805	8/30/2015 5:21:43 PM	8/30/2015 5:22:21 PM	38
Powell Rd	25805	8/30/2015 5:24:23 PM	8/30/2015 5:25:06 PM	43
Powell Rd	25805	8/30/2015 5:27:02 PM	8/30/2015 5:27:39 PM	37
Powell Rd	25805	8/30/2015 5:29:21 PM	8/30/2015 5:30:04 PM	43
Powell Rd	25805	8/30/2015 5:31:56 PM	8/30/2015 5:32:54 PM	58
Powell Rd	25805	8/30/2015 5:34:41 PM	8/30/2015 5:35:40 PM	59
Powell Rd	25805	8/30/2015 5:37:27 PM	8/30/2015 5:38:18 PM	51
Powell Rd	25805	8/30/2015 5:40:13 PM	8/30/2015 5:40:52 PM	39
Powell Rd	25805	8/30/2015 5:42:36 PM	8/30/2015 5:43:22 PM	46
Powell Rd	25805	8/30/2015 5:45:06 PM	8/30/2015 5:45:47 PM	41
Powell Rd	25805	8/30/2015 5:47:37 PM	8/30/2015 5:48:57 PM	80
Powell Rd	25805	8/30/2015 5:50:49 PM	8/30/2015 5:51:39 PM	50
Powell Rd	25805	8/30/2015 5:53:32 PM	8/30/2015 5:54:31 PM	59
Powell Rd	25805	8/30/2015 5:56:19 PM	8/30/2015 5:57:09 PM	50
Powell Rd	25805	8/30/2015 5:59:01 PM	8/30/2015 6:00:09 PM	68
Powell Rd	25805	8/30/2015 6:02:11 PM	8/30/2015 6:04:37 PM	146
Powell Rd	25805	8/30/2015 6:06:48 PM	8/30/2015 6:07:45 PM	57
Powell Rd	25805	8/30/2015 6:09:34 PM	8/30/2015 6:10:10 PM	36
Powell Rd	25805	8/30/2015 6:11:52 PM	8/30/2015 6:13:22 PM	90
Powell Rd	25805	8/30/2015 6:15:27 PM	8/30/2015 6:16:36 PM	69
Powell Rd	25805	8/30/2015 6:18:17 PM	8/30/2015 6:19:38 PM	81
Powell Rd	25805	8/30/2015 6:21:22 PM	8/30/2015 6:23:28 PM	126
Powell Rd	25805	8/30/2015 6:25:31 PM	8/30/2015 6:29:13 PM	222
Powell Rd	25805	8/30/2015 6:31:22 PM	8/30/2015 6:33:33 PM	131
Powell Rd	25805	8/30/2015 6:35:35 PM	8/30/2015 6:38:43 PM	188
Powell Rd	25805	8/30/2015 6:41:08 PM	8/30/2015 6:43:02 PM	114
Powell Rd	25805	8/30/2015 6:45:07 PM	8/30/2015 6:47:20 PM	133
Powell Rd	25805	8/30/2015 6:49:28 PM	8/30/2015 6:51:09 PM	101



Powell Rd	25805	8/30/2015 6:53:11 PM	8/30/2015 6:54:31 PM	80
Powell Rd	25805	8/30/2015 6:56:22 PM	8/30/2015 6:58:09 PM	107
Powell Rd	25805	8/30/2015 7:00:14 PM	8/30/2015 7:01:33 PM	79
Powell Rd	25805	8/30/2015 7:03:27 PM	8/30/2015 7:04:29 PM	62
Powell Rd	25805	8/30/2015 7:06:15 PM	8/30/2015 7:07:35 PM	80
Powell Rd	25805	8/30/2015 7:09:26 PM	8/30/2015 7:10:39 PM	73
Powell Rd	25805	8/30/2015 7:12:32 PM	8/30/2015 7:13:45 PM	73
Powell Rd	25805	8/30/2015 7:15:32 PM	8/30/2015 7:16:21 PM	49
Powell Rd	25805	8/30/2015 7:18:02 PM	8/30/2015 7:18:40 PM	38
Powell Rd	25805	8/30/2015 7:20:22 PM	8/30/2015 7:21:03 PM	41
Powell Rd	25805	8/30/2015 7:22:34 PM	8/30/2015 7:24:12 PM	98
Powell Rd	25805	8/30/2015 7:32:10 PM	8/30/2015 7:32:47 PM	37
Powell Rd	25805	8/30/2015 7:34:41 PM	8/30/2015 7:35:18 PM	37
Powell Rd	25805	8/30/2015 7:37:01 PM	8/30/2015 7:37:42 PM	41
Powell Rd	25805	8/30/2015 7:39:24 PM	8/30/2015 7:40:03 PM	39
Powell Rd	25805	8/30/2015 7:41:44 PM	8/30/2015 7:42:25 PM	41
Powell Rd	25805	8/30/2015 7:44:06 PM	8/30/2015 7:44:43 PM	37
Powell Rd	25805	8/30/2015 7:46:24 PM	8/30/2015 7:47:02 PM	38
Powell Rd	25805	8/30/2015 7:48:45 PM	8/30/2015 7:49:26 PM	41
Powell Rd	25805	8/30/2015 7:51:37 PM	8/30/2015 7:51:57 PM	20
Powell Rd	25805	8/30/2015 7:53:28 PM	8/30/2015 7:54:13 PM	45
Powell Rd	25805	8/30/2015 7:55:59 PM	8/30/2015 7:56:43 PM	44
Powell Rd	25805	8/30/2015 7:58:18 PM	8/30/2015 7:59:09 PM	51
Powell Rd	25805	8/30/2015 8:00:43 PM	8/30/2015 8:01:36 PM	53
Powell Rd	25805	8/31/2015 8:03:40 AM	8/31/2015 8:05:47 AM	127
Powell Rd	25805	8/31/2015 8:07:08 AM	8/31/2015 8:07:46 AM	38
Powell Rd	25805	8/31/2015 8:09:13 AM	8/31/2015 8:09:53 AM	40
Powell Rd	25805	8/31/2015 8:11:26 AM	8/31/2015 8:12:03 AM	37
Powell Rd	25805	8/31/2015 8:13:30 AM	8/31/2015 8:14:09 AM	39
Powell Rd	25805	8/31/2015 8:15:36 AM	8/31/2015 8:16:17 AM	41
Powell Rd	25805	8/31/2015 8:17:43 AM	8/31/2015 8:18:22 AM	39
Powell Rd	25805	8/31/2015 8:19:51 AM	8/31/2015 8:20:27 AM	36
Powell Rd	25805	8/31/2015 8:22:11 AM	8/31/2015 8:22:43 AM	32
Powell Rd	25805	8/31/2015 8:24:25 AM	8/31/2015 8:25:02 AM	37
Powell Rd	25805	8/31/2015 8:26:34 AM	8/31/2015 8:27:12 AM	38
Powell Rd	25805	8/31/2015 8:28:43 AM	8/31/2015 8:29:26 AM	43
Powell Rd	25805	8/31/2015 8:30:55 AM	8/31/2015 8:31:38 AM	43
Powell Rd	25805	8/31/2015 8:33:04 AM	8/31/2015 8:33:47 AM	43
Powell Rd	25805	8/31/2015 8:35:18 AM	8/31/2015 8:36:04 AM	46
Powell Rd	25805	8/31/2015 8:37:36 AM	8/31/2015 8:38:44 AM	68
Powell Rd	25805	8/31/2015 8:40:26 AM	8/31/2015 8:41:43 AM	77
Powell Rd	25805	8/31/2015 8:42:46 AM	8/31/2015 8:44:12 AM	86
Powell Rd	25805	8/31/2015 8:45:02 AM	8/31/2015 8:45:57 AM	55
Powell Rd	25805	8/31/2015 8:47:28 AM	8/31/2015 8:48:16 AM	48
Powell Rd	25805	8/31/2015 8:50:29 AM	8/31/2015 8:51:07 AM	38
Powell Rd	25805	8/31/2015 8:52:21 AM	8/31/2015 8:53:20 AM	59
Powell Rd	25805	8/31/2015 8:55:05 AM	8/31/2015 8:56:09 AM	64
Powell Rd	25805	8/31/2015 8:57:23 AM	8/31/2015 8:58:13 AM	50
Powell Rd	25805	8/31/2015 9:07:36 AM	8/31/2015 9:09:26 AM	110
Powell Rd	25805	8/31/2015 9:11:20 AM	8/31/2015 9:11:40 AM	20
Powell Rd	25805	8/31/2015 9:13:34 AM	8/31/2015 9:14:03 AM	29
Powell Rd	25805	8/31/2015 9:18:07 AM	8/31/2015 9:19:26 AM	79
Powell Rd	25805	8/31/2015 9:20:36 AM	8/31/2015 9:25:32 AM	296
Powell Rd	25805	8/31/2015 9:25:53 AM	8/31/2015 9:26:28 AM	35
Powell Rd	25805	8/31/2015 9:28:01 AM	8/31/2015 9:28:51 AM	50
Powell Rd	25805	8/31/2015 9:30:37 AM	8/31/2015 9:31:30 AM	53
Powell Rd	25805	8/31/2015 9:33:12 AM	8/31/2015 9:34:01 AM	49
Powell Rd	25805	8/31/2015 9:36:08 AM	8/31/2015 9:36:44 AM	36
Powell Rd	25805	8/31/2015 9:40:58 AM	8/31/2015 9:41:41 AM	43
Powell Rd	25805	8/31/2015 9:43:22 AM	8/31/2015 9:44:03 AM	41
Powell Rd	25805	8/31/2015 9:45:41 AM	8/31/2015 9:46:42 AM	61
Powell Rd	25805	8/31/2015 9:48:22 AM	8/31/2015 9:49:21 AM	59
Powell Rd	25805	8/31/2015 9:51:24 AM	8/31/2015 9:51:46 AM	22
Powell Rd	25805	8/31/2015 9:53:20 AM	8/31/2015 9:54:11 AM	51
Powell Rd	25805	8/31/2015 9:55:44 AM	8/31/2015 9:56:27 AM	43
Powell Rd	25805	8/31/2015 9:58:01 AM	8/31/2015 9:58:51 AM	50

Powell Rd	25805	8/31/2015 10:00:16 AM	8/31/2015 10:01:03 AM	47
Powell Rd	25805	8/31/2015 10:02:37 AM	8/31/2015 10:03:36 AM	59
Powell Rd	25805	8/31/2015 10:05:50 AM	8/31/2015 10:06:12 AM	22
Powell Rd	25805	8/31/2015 10:07:53 AM	8/31/2015 10:08:46 AM	53
Powell Rd	25805	8/31/2015 10:10:27 AM	8/31/2015 10:11:24 AM	57
Powell Rd	25805	8/31/2015 10:12:53 AM	8/31/2015 10:13:53 AM	60
Powell Rd	25805	8/31/2015 10:15:29 AM	8/31/2015 10:16:18 AM	49
Powell Rd	25805	8/31/2015 10:17:58 AM	8/31/2015 10:18:44 AM	46
Powell Rd	25805	8/31/2015 10:20:16 AM	8/31/2015 10:21:31 AM	75
Powell Rd	25805	8/31/2015 10:23:01 AM	8/31/2015 10:23:39 AM	38
Powell Rd	25805	8/31/2015 10:25:03 AM	8/31/2015 10:25:42 AM	39
Powell Rd	25805	8/31/2015 10:27:13 AM	8/31/2015 10:27:54 AM	41
Powell Rd	25805	8/31/2015 10:29:23 AM	8/31/2015 10:30:04 AM	41
Powell Rd	25805	8/31/2015 10:31:33 AM	8/31/2015 10:32:19 AM	46
Powell Rd	25805	8/31/2015 10:33:49 AM	8/31/2015 10:34:27 AM	38
Powell Rd	25805	8/31/2015 10:35:55 AM	8/31/2015 10:36:33 AM	38
Powell Rd	25805	8/31/2015 10:38:04 AM	8/31/2015 10:38:34 AM	30
Powell Rd	25805	8/31/2015 10:40:08 AM	8/31/2015 10:40:51 AM	43
Powell Rd	25805	8/31/2015 10:42:32 AM	8/31/2015 10:43:52 AM	80
Powell Rd	25805	8/31/2015 10:45:33 AM	8/31/2015 10:46:16 AM	43
Powell Rd	25805	8/31/2015 10:47:49 AM	8/31/2015 10:48:31 AM	42
Powell Rd	25805	8/31/2015 10:50:04 AM	8/31/2015 10:50:47 AM	43
Powell Rd	25805	8/31/2015 10:52:13 AM	8/31/2015 10:53:16 AM	63
Powell Rd	25805	8/31/2015 10:54:56 AM	8/31/2015 10:55:55 AM	59
Powell Rd	25805	8/31/2015 10:58:08 AM	8/31/2015 10:58:28 AM	20
Powell Rd	25805	8/31/2015 10:59:53 AM	8/31/2015 11:00:34 AM	41
Powell Rd	25805	8/31/2015 11:02:00 AM	8/31/2015 11:02:58 AM	58
Powell Rd	25805	8/31/2015 11:04:27 AM	8/31/2015 11:05:17 AM	50
Powell Rd	25805	8/31/2015 11:06:48 AM	8/31/2015 11:07:53 AM	65
Powell Rd	25805	8/31/2015 11:09:35 AM	8/31/2015 11:10:15 AM	40
Powell Rd	25805	8/31/2015 11:11:41 AM	8/31/2015 11:12:19 AM	38
Powell Rd	25805	8/31/2015 11:13:45 AM	8/31/2015 11:14:28 AM	43
Powell Rd	25805	8/31/2015 11:16:10 AM	8/31/2015 11:16:40 AM	30
Powell Rd	25805	8/31/2015 11:18:04 AM	8/31/2015 11:18:43 AM	39
Powell Rd	25805	8/31/2015 11:20:17 AM	8/31/2015 11:21:01 AM	44
Powell Rd	25805	8/31/2015 11:23:12 AM	8/31/2015 11:23:39 AM	27
Powell Rd	25805	8/31/2015 11:25:21 AM	8/31/2015 11:26:20 AM	59
Powell Rd	25805	8/31/2015 11:28:31 AM	8/31/2015 11:29:03 AM	32
Powell Rd	25805	8/31/2015 11:30:35 AM	8/31/2015 11:31:24 AM	49
Powell Rd	25805	8/31/2015 11:32:59 AM	8/31/2015 11:33:58 AM	59
Powell Rd	25805	8/31/2015 11:35:45 AM	8/31/2015 11:36:12 AM	27
Powell Rd	25805	8/31/2015 11:37:41 AM	8/31/2015 11:38:18 AM	37
Powell Rd	25805	8/31/2015 11:39:59 AM	8/31/2015 11:40:24 AM	25
Powell Rd	25805	8/31/2015 11:42:06 AM	8/31/2015 11:42:37 AM	31
Powell Rd	25805	8/31/2015 11:44:19 AM	8/31/2015 11:44:59 AM	40
Powell Rd	25805	8/31/2015 11:46:41 AM	8/31/2015 11:47:08 AM	27
Powell Rd	25805	8/31/2015 11:48:51 AM	8/31/2015 11:49:34 AM	43
Powell Rd	25805	8/31/2015 11:51:17 AM	8/31/2015 11:51:56 AM	39
Powell Rd	25805	8/31/2015 11:53:30 AM	8/31/2015 11:54:08 AM	38
Powell Rd	25805	8/31/2015 11:55:50 AM	8/31/2015 11:56:19 AM	29
Powell Rd	25805	8/31/2015 11:57:59 AM	8/31/2015 11:58:38 AM	39
Powell Rd	25805	8/31/2015 12:00:26 PM	8/31/2015 12:01:05 PM	39
Powell Rd	25805	8/31/2015 12:02:34 PM	8/31/2015 12:03:12 PM	38
Powell Rd	25805	8/31/2015 12:04:39 PM	8/31/2015 12:05:27 PM	48
Powell Rd	25805	8/31/2015 12:07:00 PM	8/31/2015 12:07:42 PM	42
Powell Rd	25805	8/31/2015 12:09:24 PM	8/31/2015 12:10:10 PM	46
Powell Rd	25805	8/31/2015 12:11:53 PM	8/31/2015 12:12:35 PM	42
Powell Rd	25805	8/31/2015 12:14:16 PM	8/31/2015 12:14:48 PM	32
Powell Rd	25805	8/31/2015 12:16:23 PM	8/31/2015 12:17:17 PM	54
Powell Rd	25805	8/31/2015 12:18:50 PM	8/31/2015 12:19:28 PM	38
Powell Rd	25805	8/31/2015 12:21:10 PM	8/31/2015 12:21:47 PM	37
Powell Rd	25805	8/31/2015 12:23:28 PM	8/31/2015 12:24:08 PM	40
Powell Rd	25805	8/31/2015 12:25:50 PM	8/31/2015 12:26:18 PM	28
Powell Rd	25805	8/31/2015 12:28:08 PM	8/31/2015 12:28:47 PM	39
Powell Rd	25805	8/31/2015 12:30:19 PM	8/31/2015 12:30:57 PM	38
Powell Rd	25805	8/31/2015 12:32:24 PM	8/31/2015 12:33:02 PM	38

Powell Rd	25805	8/31/2015 12:34:44 PM	8/31/2015 12:35:23 PM	39
Powell Rd	25805	8/31/2015 12:36:53 PM	8/31/2015 12:37:44 PM	51
Powell Rd	25805	8/31/2015 12:39:35 PM	8/31/2015 12:40:19 PM	44
Powell Rd	25805	8/31/2015 12:41:55 PM	8/31/2015 12:42:45 PM	50
Powell Rd	25805	8/31/2015 12:44:26 PM	8/31/2015 12:45:10 PM	44
Powell Rd	25805	8/31/2015 12:46:52 PM	8/31/2015 12:47:38 PM	46
Powell Rd	25805	8/31/2015 12:49:23 PM	8/31/2015 12:49:54 PM	31
Powell Rd	25805	8/31/2015 12:51:36 PM	8/31/2015 12:52:07 PM	31
Powell Rd	25805	8/31/2015 12:53:49 PM	8/31/2015 12:54:48 PM	59
Powell Rd	25805	8/31/2015 12:56:42 PM	8/31/2015 12:58:13 PM	91
Powell Rd	25805	8/31/2015 1:00:15 PM	8/31/2015 1:00:56 PM	41
Powell Rd	25805	8/31/2015 1:02:39 PM	8/31/2015 1:03:09 PM	30
Powell Rd	25805	8/31/2015 1:04:59 PM	8/31/2015 1:05:49 PM	50
Powell Rd	25805	8/31/2015 1:07:23 PM	8/31/2015 1:09:25 PM	122
Powell Rd	25805	8/31/2015 1:11:28 PM	8/31/2015 1:12:51 PM	83
Powell Rd	25805	8/31/2015 1:14:03 PM	8/31/2015 1:14:50 PM	47
Powell Rd	25805	8/31/2015 1:16:32 PM	8/31/2015 1:17:09 PM	37
Powell Rd	25805	8/31/2015 1:18:50 PM	8/31/2015 1:19:36 PM	46
Powell Rd	25805	8/31/2015 1:21:19 PM	8/31/2015 1:21:49 PM	30
Powell Rd	25805	8/31/2015 1:23:35 PM	8/31/2015 1:24:15 PM	40
Powell Rd	25805	8/31/2015 1:26:09 PM	8/31/2015 1:26:47 PM	38
Powell Rd	25805	8/31/2015 1:28:29 PM	8/31/2015 1:29:09 PM	40
Powell Rd	25805	8/31/2015 1:31:03 PM	8/31/2015 1:31:41 PM	38
Powell Rd	25805	8/31/2015 1:33:24 PM	8/31/2015 1:34:01 PM	37
Powell Rd	25805	8/31/2015 1:35:35 PM	8/31/2015 1:36:20 PM	45
Powell Rd	25805	8/31/2015 1:38:10 PM	8/31/2015 1:38:40 PM	30
Powell Rd	25805	8/31/2015 1:40:28 PM	8/31/2015 1:41:07 PM	39
Powell Rd	25805	8/31/2015 1:42:54 PM	8/31/2015 1:43:40 PM	46
Powell Rd	25805	8/31/2015 1:45:34 PM	8/31/2015 1:46:12 PM	38
Powell Rd	25805	8/31/2015 1:47:56 PM	8/31/2015 1:48:39 PM	43
Powell Rd	25805	8/31/2015 1:50:24 PM	8/31/2015 1:51:11 PM	47
Powell Rd	25805	8/31/2015 1:53:04 PM	8/31/2015 1:54:11 PM	67
Powell Rd	25805	8/31/2015 1:56:05 PM	8/31/2015 1:57:04 PM	59
Powell Rd	25805	8/31/2015 1:58:57 PM	8/31/2015 1:59:44 PM	47
Powell Rd	25805	8/31/2015 2:01:40 PM	8/31/2015 2:02:22 PM	42
Powell Rd	25805	8/31/2015 2:04:10 PM	8/31/2015 2:04:50 PM	40
Powell Rd	25805	8/31/2015 2:06:38 PM	8/31/2015 2:07:24 PM	46
Powell Rd	25805	8/31/2015 2:09:05 PM	8/31/2015 2:10:04 PM	59
Powell Rd	25805	8/31/2015 2:11:48 PM	8/31/2015 2:12:59 PM	71
Powell Rd	25805	8/31/2015 2:14:54 PM	8/31/2015 2:15:43 PM	49
Powell Rd	25805	8/31/2015 2:17:45 PM	8/31/2015 2:18:13 PM	28
Powell Rd	25805	8/31/2015 2:20:07 PM	8/31/2015 2:20:59 PM	52
Powell Rd	25805	8/31/2015 2:22:53 PM	8/31/2015 2:23:51 PM	58
Powell Rd	25805	8/31/2015 2:25:43 PM	8/31/2015 2:26:42 PM	59
Powell Rd	25805	8/31/2015 2:28:44 PM	8/31/2015 2:29:50 PM	66
Powell Rd	25805	8/31/2015 2:31:52 PM	8/31/2015 2:32:30 PM	38
Powell Rd	25805	8/31/2015 2:34:29 PM	8/31/2015 2:35:07 PM	38
Powell Rd	25805	8/31/2015 2:36:57 PM	8/31/2015 2:37:50 PM	53
Powell Rd	25805	8/31/2015 2:39:40 PM	8/31/2015 2:40:49 PM	69
Powell Rd	25805	8/31/2015 2:42:38 PM	8/31/2015 2:43:37 PM	59
Powell Rd	25805	8/31/2015 2:45:31 PM	8/31/2015 2:46:41 PM	70
Powell Rd	25805	8/31/2015 2:52:56 PM	8/31/2015 3:13:46 PM	1250
Powell Rd	25805	9/2/2015 9:44:31 AM	9/2/2015 9:45:22 AM	51
Powell Rd	25805	9/2/2015 10:25:44 AM	9/2/2015 10:28:00 AM	136
Powell Rd	25805	9/2/2015 10:29:14 AM	9/2/2015 10:30:03 AM	49
Powell Rd	25805	9/2/2015 10:31:34 AM	9/2/2015 10:32:19 AM	45
Powell Rd	25805	9/2/2015 4:16:04 PM	9/2/2015 4:16:39 PM	35
Powell Rd	25805	9/2/2015 7:25:18 PM	9/2/2015 7:26:02 PM	44
Powell Rd	25805	9/2/2015 7:29:06 PM	9/2/2015 7:29:42 PM	36
Powell Rd	25805	9/2/2015 7:32:10 PM	9/2/2015 7:32:47 PM	37
Powell Rd	25805	9/2/2015 7:35:07 PM	9/2/2015 7:35:40 PM	33
Powell Rd	25805	9/2/2015 7:37:49 PM	9/2/2015 7:38:22 PM	33
Powell Rd	25805	9/2/2015 7:40:28 PM	9/2/2015 7:41:09 PM	41
Powell Rd	25805	9/2/2015 7:43:12 PM	9/2/2015 7:43:57 PM	45
Powell Rd	25805	9/2/2015 7:45:54 PM	9/2/2015 7:46:31 PM	37
Powell Rd	25805	9/2/2015 7:48:32 PM	9/2/2015 7:49:22 PM	50

Powell Rd	25805	9/2/2015 7:51:10 PM	9/2/2015 7:51:53 PM	43
Powell Rd	25805	9/2/2015 7:53:53 PM	9/2/2015 7:54:40 PM	47
Powell Rd	25805	9/2/2015 7:56:33 PM	9/2/2015 7:57:14 PM	41
Powell Rd	25805	9/2/2015 7:59:15 PM	9/2/2015 7:59:52 PM	37
Powell Rd	25805	9/2/2015 8:01:48 PM	9/2/2015 8:02:29 PM	41
Powell Rd	25805	9/3/2015 8:03:55 AM	9/3/2015 8:05:39 AM	104
Powell Rd	25805	9/3/2015 8:06:52 AM	9/3/2015 8:07:33 AM	41
Powell Rd	25805	9/3/2015 8:09:05 AM	9/3/2015 8:09:46 AM	41
Powell Rd	25805	9/3/2015 8:11:20 AM	9/3/2015 8:11:53 AM	33
Powell Rd	25805	9/3/2015 8:13:38 AM	9/3/2015 8:14:19 AM	41
Powell Rd	25805	9/3/2015 8:16:06 AM	9/3/2015 8:16:48 AM	42
Powell Rd	25805	9/3/2015 8:18:24 AM	9/3/2015 8:19:06 AM	42
Powell Rd	25805	9/3/2015 8:20:41 AM	9/3/2015 8:21:23 AM	42
Powell Rd	25805	9/3/2015 8:22:48 AM	9/3/2015 8:23:30 AM	42
Powell Rd	25805	9/3/2015 8:25:02 AM	9/3/2015 8:25:45 AM	43
Powell Rd	25805	9/3/2015 8:27:16 AM	9/3/2015 8:27:48 AM	32
Powell Rd	25805	9/3/2015 8:29:23 AM	9/3/2015 8:29:52 AM	29
Powell Rd	25805	9/3/2015 8:31:30 AM	9/3/2015 8:32:04 AM	34
Powell Rd	25805	9/3/2015 9:29:29 AM	9/3/2015 9:30:43 AM	74
Powell Rd	25805	9/3/2015 9:34:20 AM	9/3/2015 9:35:14 AM	54
Powell Rd	25805	9/3/2015 10:09:11 AM	9/3/2015 10:09:29 AM	18
Powell Rd	25805	9/3/2015 10:12:15 AM	9/3/2015 10:19:45 AM	450
Powell Rd	25805	9/3/2015 10:20:05 AM	9/3/2015 10:35:33 AM	928
Powell Rd	25805	9/3/2015 10:36:48 AM	9/3/2015 11:28:41 AM	3113
Powell Rd	25805	9/10/2015 4:07:34 PM	9/10/2015 4:08:07 PM	33
			HH:MM:SS	13:41:46

Input: High UST Level

Powell Rd	25805	9/3/2015 11:28:41 AM	9/3/2015 11:47:35 AM	1134
			HH:MM:SS	00:18:54

Input: LCS WELL SHUTDOWN

Powell Rd	25805	7/1/2015 12:00:23 AM	7/7/2015 10:13:10 AM	555167
			HH:MM:SS	154:12:47

Input: Primary Power

Powell Rd	25805	8/7/2015 10:07:31 AM	8/7/2015 12:38:12 PM	9041
Powell Rd	25805	8/7/2015 1:34:35 PM	8/7/2015 2:18:48 PM	2653
Powell Rd	25805	8/30/2015 7:50:39 AM	8/30/2015 8:57:37 AM	4018
Powell Rd	25805	8/31/2015 3:40:23 PM	8/31/2015 3:44:29 PM	246
Powell Rd	25805	9/3/2015 10:13:36 AM	9/3/2015 10:13:58 AM	22
Powell Rd	25805	9/3/2015 10:16:56 AM	9/3/2015 10:21:14 AM	258
Powell Rd	25805	9/3/2015 10:42:37 AM	9/3/2015 11:29:02 AM	2785
			HH:MM:SS	05:17:03

Cycle Timer Shutdown (12Hrs. Daily)	Automatic Flare Cycling Run 12Hrs off 12 Hrs on Daily
<b>*NOT ALL ALARMS SHUTDOWN THE SYSTEMS</b>	HH:MM:SS
Flare Downtime (Mechanical)	13:41:46
July Daily Shutdown	372
August Daily Shutdown	372
September Daily shutdown	360
Total	1206:00:00

- Status History for Waste Management -Cincinnati -  
Powell Rd. (new)  
Thursday, October 01, 2015 to Thursday, December 31, 2015

- Alarm History -				
Station	Device	Alarm Start	Alarm End	Alarm Duration
Input: 75% UST Level				
Powell Rd. (new)	28375	10/12/2015 6:26:57 AM	10/12/2015 10:42:44 AM	15347
Powell Rd. (new)	28375	12/28/2015 9:25:06 AM	12/31/2015 7:20:39 AM	251733
			HH:MM:SS	74:11:20
Input: Flare Failure				
Powell Rd. (new)	28375	10/1/2015 12:00:24 AM	10/1/2015 9:07:02 AM	32798
Powell Rd. (new)	28375	10/1/2015 3:36:19 PM	10/1/2015 3:40:18 PM	239
Powell Rd. (new)	28375	10/1/2015 3:49:25 PM	10/1/2015 3:52:57 PM	212
Powell Rd. (new)	28375	10/1/2015 4:02:18 PM	10/1/2015 4:06:58 PM	280
Powell Rd. (new)	28375	10/1/2015 4:09:55 PM	10/1/2015 4:14:01 PM	246
Powell Rd. (new)	28375	10/1/2015 4:18:01 PM	10/1/2015 4:21:22 PM	201
Powell Rd. (new)	28375	10/1/2015 4:25:45 PM	10/1/2015 4:28:22 PM	157
Powell Rd. (new)	28375	10/1/2015 4:34:51 PM	10/1/2015 4:37:39 PM	168
Powell Rd. (new)	28375	10/1/2015 4:40:51 PM	10/1/2015 4:44:43 PM	232
Powell Rd. (new)	28375	10/1/2015 4:50:45 PM	10/1/2015 4:54:11 PM	206
Powell Rd. (new)	28375	10/1/2015 5:04:52 PM	10/1/2015 5:08:24 PM	212
Powell Rd. (new)	28375	10/1/2015 5:17:47 PM	10/1/2015 5:20:41 PM	174
Powell Rd. (new)	28375	10/1/2015 5:30:51 PM	10/1/2015 5:34:27 PM	216
Powell Rd. (new)	28375	10/1/2015 5:39:14 PM	10/5/2015 12:47:38 PM	328104
Powell Rd. (new)	28375	10/5/2015 8:15:40 PM	10/6/2015 8:05:24 AM	42584
Powell Rd. (new)	28375	10/6/2015 8:14:47 PM	10/7/2015 8:05:25 AM	42638
Powell Rd. (new)	28375	10/7/2015 8:14:26 PM	10/8/2015 8:05:23 AM	42657
Powell Rd. (new)	28375	10/8/2015 8:14:38 PM	10/9/2015 8:05:26 AM	42648
Powell Rd. (new)	28375	10/9/2015 8:14:29 PM	10/10/2015 8:05:20 AM	42651
Powell Rd. (new)	28375	10/10/2015 8:10:48 AM	10/10/2015 8:16:02 AM	314
Powell Rd. (new)	28375	10/10/2015 8:21:29 AM	10/10/2015 8:25:44 AM	255
Powell Rd. (new)	28375	10/10/2015 8:14:04 PM	10/11/2015 8:05:23 AM	42679
Powell Rd. (new)	28375	10/11/2015 8:14:34 PM	10/12/2015 8:04:55 AM	42621
Powell Rd. (new)	28375	10/12/2015 8:12:53 PM	10/13/2015 8:05:28 AM	42755
Powell Rd. (new)	28375	10/13/2015 8:13:01 PM	10/14/2015 8:05:21 AM	42740
Powell Rd. (new)	28375	10/14/2015 8:12:38 AM	10/14/2015 8:16:14 AM	216
Powell Rd. (new)	28375	10/14/2015 8:19:57 AM	10/14/2015 8:23:32 AM	215
Powell Rd. (new)	28375	10/14/2015 8:27:27 AM	10/14/2015 8:30:58 AM	211
Powell Rd. (new)	28375	10/14/2015 2:21:30 PM	10/14/2015 2:26:27 PM	297
Powell Rd. (new)	28375	10/14/2015 2:30:50 PM	10/14/2015 2:34:33 PM	223
Powell Rd. (new)	28375	10/14/2015 2:37:06 PM	10/14/2015 2:41:33 PM	267
Powell Rd. (new)	28375	10/14/2015 4:14:30 PM	10/14/2015 4:18:58 PM	268
Powell Rd. (new)	28375	10/14/2015 4:23:21 PM	10/14/2015 4:26:54 PM	213
Powell Rd. (new)	28375	10/14/2015 4:34:16 PM	10/18/2015 12:56:34 PM	332538
Powell Rd. (new)	28375	10/18/2015 8:14:36 PM	10/19/2015 8:05:00 AM	42624
Powell Rd. (new)	28375	10/19/2015 2:49:32 PM	10/19/2015 2:50:43 PM	71
Powell Rd. (new)	28375	10/19/2015 2:55:41 PM	10/19/2015 2:59:41 PM	240
Powell Rd. (new)	28375	10/19/2015 8:14:39 PM	10/20/2015 8:05:31 AM	42652
Powell Rd. (new)	28375	10/20/2015 1:33:05 PM	10/20/2015 2:19:57 PM	2812
Powell Rd. (new)	28375	10/20/2015 2:22:54 PM	10/20/2015 2:25:23 PM	149
Powell Rd. (new)	28375	10/20/2015 2:27:49 PM	10/20/2015 2:31:09 PM	200
Powell Rd. (new)	28375	10/20/2015 2:32:37 PM	10/21/2015 11:38:46 AM	75969
Powell Rd. (new)	28375	10/21/2015 8:15:02 PM	10/22/2015 8:04:37 AM	42575
Powell Rd. (new)	28375	10/22/2015 8:05:54 AM	10/22/2015 8:07:27 AM	93
Powell Rd. (new)	28375	10/22/2015 8:09:39 PM	10/23/2015 8:04:40 AM	42901
Powell Rd. (new)	28375	10/23/2015 8:05:40 AM	10/23/2015 8:07:25 AM	105
Powell Rd. (new)	28375	10/23/2015 8:08:17 AM	10/23/2015 8:09:57 AM	100
Powell Rd. (new)	28375	10/23/2015 8:10:59 AM	10/23/2015 8:12:38 AM	99
Powell Rd. (new)	28375	10/23/2015 8:13:38 AM	10/23/2015 8:15:17 AM	99
Powell Rd. (new)	28375	10/23/2015 8:16:30 AM	10/23/2015 8:18:04 AM	94
Powell Rd. (new)	28375	10/23/2015 8:19:19 AM	10/23/2015 8:20:58 AM	99
Powell Rd. (new)	28375	10/23/2015 8:22:11 AM	10/26/2015 9:37:54 AM	263743
Powell Rd. (new)	28375	10/26/2015 9:39:09 AM	10/26/2015 9:39:29 AM	20



Powell Rd. (new)	28375	10/26/2015 9:40:24 AM	10/26/2015 9:50:37 AM	613
Powell Rd. (new)	28375	10/26/2015 8:15:17 PM	10/27/2015 8:05:25 AM	42608
Powell Rd. (new)	28375	10/27/2015 8:14:23 PM	10/28/2015 8:05:38 AM	42675
Powell Rd. (new)	28375	10/28/2015 8:12:38 PM	10/29/2015 8:05:18 AM	42760
Powell Rd. (new)	28375	10/29/2015 8:12:08 PM	10/30/2015 8:04:49 AM	42761
Powell Rd. (new)	28375	10/30/2015 8:13:28 PM	11/1/2015 10:27:48 AM	137660
Powell Rd. (new)	28375	11/1/2015 7:14:14 PM	11/2/2015 7:05:22 AM	42668
Powell Rd. (new)	28375	11/2/2015 7:13:31 PM	11/3/2015 7:04:42 AM	42671
Powell Rd. (new)	28375	11/3/2015 7:13:51 PM	11/4/2015 7:05:17 AM	42686
Powell Rd. (new)	28375	11/4/2015 12:18:11 PM	11/4/2015 12:19:40 PM	89
Powell Rd. (new)	28375	11/4/2015 12:20:00 PM	11/4/2015 12:21:35 PM	95
Powell Rd. (new)	28375	11/4/2015 12:24:43 PM	11/4/2015 12:28:13 PM	210
Powell Rd. (new)	28375	11/4/2015 12:30:45 PM	11/4/2015 12:34:29 PM	224
Powell Rd. (new)	28375	11/4/2015 12:36:38 PM	11/4/2015 12:38:00 PM	82
Powell Rd. (new)	28375	11/4/2015 12:41:09 PM	11/4/2015 12:41:44 PM	35
Powell Rd. (new)	28375	11/4/2015 12:44:02 PM	11/4/2015 12:45:54 PM	112
Powell Rd. (new)	28375	11/4/2015 12:47:27 PM	11/6/2015 9:44:01 AM	161794
Powell Rd. (new)	28375	11/6/2015 7:10:36 PM	11/7/2015 7:05:10 AM	42874
Powell Rd. (new)	28375	11/7/2015 7:11:27 AM	11/7/2015 7:13:25 AM	118
Powell Rd. (new)	28375	11/7/2015 7:12:47 PM	11/8/2015 7:05:28 AM	42761
Powell Rd. (new)	28375	11/8/2015 7:12:49 AM	11/8/2015 7:13:46 AM	57
Powell Rd. (new)	28375	11/8/2015 7:19:47 AM	11/8/2015 7:21:54 AM	127
Powell Rd. (new)	28375	11/8/2015 7:27:04 AM	11/8/2015 7:28:42 AM	98
Powell Rd. (new)	28375	11/8/2015 7:34:21 AM	11/8/2015 7:36:38 AM	137
Powell Rd. (new)	28375	11/8/2015 7:13:29 PM	11/9/2015 7:05:38 AM	42729
Powell Rd. (new)	28375	11/9/2015 7:14:16 PM	11/10/2015 7:05:49 AM	42693
Powell Rd. (new)	28375	11/10/2015 7:13:18 PM	11/11/2015 7:05:42 AM	42744
Powell Rd. (new)	28375	11/11/2015 7:13:13 PM	11/12/2015 7:05:43 AM	42750
Powell Rd. (new)	28375	11/12/2015 7:11:36 PM	11/13/2015 7:05:16 AM	42820
Powell Rd. (new)	28375	11/13/2015 7:10:12 AM	11/13/2015 7:12:40 AM	148
Powell Rd. (new)	28375	11/13/2015 7:12:09 PM	11/14/2015 7:05:34 AM	42805
Powell Rd. (new)	28375	11/14/2015 7:12:27 AM	11/14/2015 7:16:10 AM	223
Powell Rd. (new)	28375	11/14/2015 7:18:14 AM	11/14/2015 7:20:18 AM	124
Powell Rd. (new)	28375	11/14/2015 7:22:39 AM	11/14/2015 7:24:56 AM	137
Powell Rd. (new)	28375	11/14/2015 7:26:41 AM	11/14/2015 7:28:44 AM	123
Powell Rd. (new)	28375	11/14/2015 7:31:08 AM	11/14/2015 7:33:34 AM	146
Powell Rd. (new)	28375	11/14/2015 7:34:48 AM	11/16/2015 7:39:43 AM	173095
Powell Rd. (new)	28375	11/16/2015 7:14:23 PM	11/17/2015 7:05:44 AM	42681
Powell Rd. (new)	28375	11/17/2015 7:14:19 PM	11/18/2015 7:05:12 AM	42653
Powell Rd. (new)	28375	11/18/2015 7:13:06 PM	11/19/2015 7:05:44 AM	42758
Powell Rd. (new)	28375	11/19/2015 7:12:26 PM	11/20/2015 7:05:06 AM	42760
Powell Rd. (new)	28375	11/20/2015 7:10:23 AM	11/20/2015 7:15:42 AM	319
Powell Rd. (new)	28375	11/20/2015 7:17:59 AM	11/20/2015 7:20:30 AM	151
Powell Rd. (new)	28375	11/20/2015 7:25:02 AM	11/20/2015 7:26:47 AM	105
Powell Rd. (new)	28375	11/20/2015 7:28:43 AM	11/20/2015 7:30:24 AM	101
Powell Rd. (new)	28375	11/20/2015 7:33:50 AM	11/20/2015 7:36:59 AM	189
Powell Rd. (new)	28375	11/20/2015 7:38:29 AM	11/20/2015 7:40:11 AM	102
Powell Rd. (new)	28375	11/20/2015 7:41:42 AM	11/21/2015 9:47:19 AM	93937
Powell Rd. (new)	28375	11/21/2015 7:10:09 PM	11/22/2015 7:05:18 AM	42909
Powell Rd. (new)	28375	11/22/2015 7:10:52 AM	11/22/2015 7:12:06 AM	74
Powell Rd. (new)	28375	11/22/2015 7:19:25 AM	11/22/2015 7:21:50 AM	145
Powell Rd. (new)	28375	11/22/2015 7:23:36 AM	11/22/2015 7:25:24 AM	108
Powell Rd. (new)	28375	11/22/2015 7:28:33 AM	11/23/2015 7:38:04 AM	86971
Powell Rd. (new)	28375	11/23/2015 7:12:11 PM	11/24/2015 7:05:25 AM	42794
Powell Rd. (new)	28375	11/25/2015 12:00:15 AM	11/25/2015 7:05:38 AM	25523
Powell Rd. (new)	28375	11/25/2015 7:10:10 AM	11/25/2015 7:11:30 AM	80
Powell Rd. (new)	28375	11/25/2015 7:13:25 PM	11/26/2015 7:05:24 AM	42719
Powell Rd. (new)	28375	11/26/2015 7:10:25 AM	11/26/2015 7:12:00 AM	95
Powell Rd. (new)	28375	11/26/2015 7:13:03 PM	11/27/2015 7:05:47 AM	42764
Powell Rd. (new)	28375	11/27/2015 7:12:30 PM	11/28/2015 7:05:23 AM	42773
Powell Rd. (new)	28375	11/28/2015 7:11:46 PM	11/29/2015 7:05:08 AM	42802
Powell Rd. (new)	28375	11/29/2015 7:11:37 PM	11/30/2015 7:05:36 AM	42839
Powell Rd. (new)	28375	11/30/2015 7:12:52 PM	12/1/2015 7:05:52 AM	42780
Powell Rd. (new)	28375	12/1/2015 7:11:02 PM	12/2/2015 7:05:51 AM	42889
Powell Rd. (new)	28375	12/2/2015 7:11:38 PM	12/3/2015 7:05:30 AM	42832
Powell Rd. (new)	28375	12/3/2015 7:13:05 AM	12/3/2015 7:18:16 AM	311

Powell Rd. (new)	28375	12/3/2015 7:20:06 AM	12/3/2015 7:22:23 AM	137
Powell Rd. (new)	28375	12/3/2015 7:23:47 AM	12/3/2015 7:29:44 AM	357
Powell Rd. (new)	28375	12/3/2015 7:30:30 AM	12/3/2015 7:33:03 AM	153
Powell Rd. (new)	28375	12/3/2015 7:34:53 AM	12/3/2015 7:39:19 AM	266
Powell Rd. (new)	28375	12/3/2015 7:40:01 AM	12/3/2015 7:43:41 AM	220
Powell Rd. (new)	28375	12/3/2015 7:44:57 AM	12/3/2015 7:47:14 AM	137
Powell Rd. (new)	28375	12/3/2015 7:47:43 AM	12/3/2015 1:26:37 PM	20334
Powell Rd. (new)	28375	12/3/2015 1:32:43 PM	12/3/2015 1:34:39 PM	116
Powell Rd. (new)	28375	12/3/2015 1:36:03 PM	12/3/2015 1:41:35 PM	332
Powell Rd. (new)	28375	12/3/2015 1:42:48 PM	12/3/2015 1:46:08 PM	200
Powell Rd. (new)	28375	12/3/2015 1:48:32 PM	12/3/2015 1:51:36 PM	184
Powell Rd. (new)	28375	12/3/2015 1:52:24 PM	12/3/2015 1:54:30 PM	126
Powell Rd. (new)	28375	12/3/2015 1:56:25 PM	12/3/2015 1:58:46 PM	141
Powell Rd. (new)	28375	12/3/2015 2:00:51 PM	12/3/2015 2:02:45 PM	114
Powell Rd. (new)	28375	12/3/2015 2:04:48 PM	12/11/2015 8:19:13 AM	670465
Powell Rd. (new)	28375	12/11/2015 7:09:29 PM	12/12/2015 7:06:16 AM	43007
Powell Rd. (new)	28375	12/12/2015 7:09:49 AM	12/12/2015 7:11:54 AM	125
Powell Rd. (new)	28375	12/12/2015 7:15:56 AM	12/12/2015 7:17:48 AM	112
Powell Rd. (new)	28375	12/12/2015 7:21:24 AM	12/12/2015 7:23:31 AM	127
Powell Rd. (new)	28375	12/12/2015 7:25:24 AM	12/12/2015 7:27:34 AM	130
Powell Rd. (new)	28375	12/12/2015 7:28:29 AM	12/12/2015 7:30:39 AM	130
Powell Rd. (new)	28375	12/12/2015 7:33:00 AM	12/12/2015 7:34:58 AM	118
Powell Rd. (new)	28375	12/12/2015 7:36:12 AM	12/12/2015 7:37:35 AM	83
Powell Rd. (new)	28375	12/12/2015 7:39:25 AM	12/12/2015 7:41:23 AM	118
Powell Rd. (new)	28375	12/12/2015 7:42:01 AM	12/12/2015 7:44:32 AM	151
Powell Rd. (new)	28375	12/12/2015 7:46:08 AM	12/12/2015 7:47:30 AM	82
Powell Rd. (new)	28375	12/12/2015 7:50:03 AM	12/12/2015 7:51:58 AM	115
Powell Rd. (new)	28375	12/12/2015 7:09:42 PM	12/13/2015 7:05:44 AM	42962
Powell Rd. (new)	28375	12/13/2015 7:09:36 AM	12/13/2015 7:12:19 AM	163
Powell Rd. (new)	28375	12/13/2015 7:22:06 AM	12/13/2015 7:24:11 AM	125
Powell Rd. (new)	28375	12/13/2015 7:26:33 AM	12/13/2015 7:28:32 AM	119
Powell Rd. (new)	28375	12/13/2015 7:29:45 AM	12/13/2015 7:31:40 AM	115
Powell Rd. (new)	28375	12/13/2015 7:33:03 AM	12/13/2015 7:34:59 AM	116
Powell Rd. (new)	28375	12/13/2015 7:36:43 AM	12/13/2015 7:38:40 AM	117
Powell Rd. (new)	28375	12/13/2015 7:41:05 AM	12/13/2015 7:42:58 AM	113
Powell Rd. (new)	28375	12/13/2015 7:09:46 PM	12/14/2015 7:05:39 AM	42953
Powell Rd. (new)	28375	12/14/2015 7:09:15 AM	12/14/2015 7:11:06 AM	111
Powell Rd. (new)	28375	12/14/2015 7:12:56 AM	12/14/2015 7:14:49 AM	113
Powell Rd. (new)	28375	12/14/2015 7:17:08 AM	12/14/2015 7:18:22 AM	74
Powell Rd. (new)	28375	12/14/2015 7:20:00 AM	12/14/2015 7:21:53 AM	113
Powell Rd. (new)	28375	12/14/2015 7:07:44 PM	12/15/2015 7:06:24 AM	43120
Powell Rd. (new)	28375	12/15/2015 7:09:25 AM	12/15/2015 7:20:34 AM	669
Powell Rd. (new)	28375	12/15/2015 7:23:26 AM	12/15/2015 7:24:42 AM	76
Powell Rd. (new)	28375	12/15/2015 7:26:07 AM	12/16/2015 7:06:31 AM	85224
Powell Rd. (new)	28375	12/16/2015 7:08:34 AM	12/16/2015 7:17:21 AM	527
Powell Rd. (new)	28375	12/16/2015 7:18:21 AM	12/16/2015 7:19:06 AM	45
Powell Rd. (new)	28375	12/16/2015 7:25:33 AM	12/16/2015 7:27:44 AM	131
Powell Rd. (new)	28375	12/16/2015 7:29:11 AM	12/16/2015 7:31:19 AM	128
Powell Rd. (new)	28375	12/16/2015 7:32:17 AM	12/16/2015 7:34:15 AM	118
Powell Rd. (new)	28375	12/16/2015 7:34:42 AM	12/16/2015 7:37:07 AM	145
Powell Rd. (new)	28375	12/16/2015 7:37:29 AM	12/16/2015 7:39:18 AM	109
Powell Rd. (new)	28375	12/16/2015 7:40:52 AM	12/16/2015 7:42:42 AM	110
Powell Rd. (new)	28375	12/16/2015 7:43:15 AM	12/16/2015 7:45:42 AM	147
Powell Rd. (new)	28375	12/16/2015 7:47:13 AM	12/16/2015 7:49:04 AM	111
Powell Rd. (new)	28375	12/16/2015 7:51:21 AM	12/16/2015 7:53:07 AM	106
Powell Rd. (new)	28375	12/16/2015 7:55:39 AM	12/16/2015 7:57:29 AM	110
Powell Rd. (new)	28375	12/16/2015 7:59:30 AM	12/16/2015 8:01:18 AM	108
Powell Rd. (new)	28375	12/16/2015 7:09:45 PM	12/17/2015 7:05:37 AM	42952
Powell Rd. (new)	28375	12/17/2015 7:07:16 AM	12/17/2015 7:32:55 AM	1539
Powell Rd. (new)	28375	12/17/2015 7:38:58 AM	12/18/2015 10:46:55 AM	97677
Powell Rd. (new)	28375	12/18/2015 10:47:45 AM	12/18/2015 10:48:43 AM	58
Powell Rd. (new)	28375	12/18/2015 7:10:38 PM	12/19/2015 7:09:40 AM	43142
Powell Rd. (new)	28375	12/19/2015 7:10:26 AM	12/19/2015 7:12:03 AM	97
Powell Rd. (new)	28375	12/19/2015 7:14:23 AM	12/19/2015 7:17:11 AM	168
Powell Rd. (new)	28375	12/19/2015 7:17:32 AM	12/19/2015 7:19:50 AM	138
Powell Rd. (new)	28375	12/19/2015 7:21:28 AM	12/19/2015 7:23:47 AM	139

Powell Rd. (new)	28375	12/19/2015 7:24:12 AM	12/19/2015 7:27:13 AM	181
Powell Rd. (new)	28375	12/19/2015 7:27:34 AM	12/19/2015 7:29:43 AM	179
Powell Rd. (new)	28375	12/19/2015 7:31:15 AM	12/19/2015 7:33:10 AM	115
Powell Rd. (new)	28375	12/19/2015 7:34:32 AM	12/19/2015 7:36:54 AM	142
Powell Rd. (new)	28375	12/19/2015 7:37:45 AM	12/19/2015 7:40:09 AM	144
Powell Rd. (new)	28375	12/19/2015 7:41:11 AM	12/19/2015 7:42:59 AM	108
Powell Rd. (new)	28375	12/19/2015 7:44:36 AM	12/19/2015 7:46:58 AM	142
Powell Rd. (new)	28375	12/19/2015 7:48:00 AM	12/19/2015 7:50:08 AM	128
Powell Rd. (new)	28375	12/19/2015 7:51:22 AM	12/19/2015 7:53:39 AM	137
Powell Rd. (new)	28375	12/19/2015 7:54:43 AM	12/19/2015 7:56:28 AM	105
Powell Rd. (new)	28375	12/19/2015 7:57:48 AM	12/19/2015 7:59:58 AM	130
Powell Rd. (new)	28375	12/19/2015 8:00:40 AM	12/19/2015 8:02:57 AM	137
Powell Rd. (new)	28375	12/19/2015 8:04:43 AM	12/19/2015 8:06:46 AM	123
Powell Rd. (new)	28375	12/19/2015 8:08:27 AM	12/21/2015 9:19:52 AM	177085
Powell Rd. (new)	28375	12/21/2015 7:11:43 PM	12/22/2015 7:05:53 AM	42850
Powell Rd. (new)	28375	12/22/2015 7:11:59 PM	12/23/2015 7:05:46 AM	42827
Powell Rd. (new)	28375	12/23/2015 7:12:40 PM	12/24/2015 7:13:58 AM	43278
Powell Rd. (new)	28375	12/24/2015 7:15:43 AM	12/24/2015 7:18:36 AM	173
Powell Rd. (new)	28375	12/24/2015 7:19:51 AM	12/24/2015 7:22:42 AM	171
Powell Rd. (new)	28375	12/24/2015 7:24:10 AM	12/24/2015 7:26:23 AM	133
Powell Rd. (new)	28375	12/24/2015 7:27:28 AM	12/24/2015 7:29:36 AM	128
Powell Rd. (new)	28375	12/24/2015 7:30:19 AM	12/24/2015 7:33:07 AM	168
Powell Rd. (new)	28375	12/24/2015 7:34:33 AM	12/24/2015 7:36:08 AM	95
Powell Rd. (new)	28375	12/24/2015 7:38:49 AM	12/24/2015 7:40:57 AM	128
Powell Rd. (new)	28375	12/24/2015 7:43:05 AM	12/24/2015 7:44:51 AM	106
Powell Rd. (new)	28375	12/24/2015 7:47:30 AM	12/24/2015 7:48:17 AM	57
Powell Rd. (new)	28375	12/24/2015 7:51:10 AM	12/24/2015 7:53:17 AM	127
Powell Rd. (new)	28375	12/24/2015 8:03:19 AM	12/28/2015 8:59:50 AM	348991
Powell Rd. (new)	28375	12/28/2015 7:09:59 PM	12/29/2015 7:05:18 AM	42919
Powell Rd. (new)	28375	12/29/2015 7:11:28 PM	12/30/2015 7:05:22 AM	42834
Powell Rd. (new)	28375	12/30/2015 7:11:32 PM	12/31/2015 7:05:56 AM	42864
Powell Rd. (new)	28375	12/31/2015 7:06:53 AM	12/31/2015 7:09:10 AM	137
Powell Rd. (new)	28375	12/31/2015 7:10:09 AM	12/31/2015 7:12:04 AM	115
Powell Rd. (new)	28375	12/31/2015 7:13:02 AM	12/31/2015 7:14:38 AM	96
Powell Rd. (new)	28375	12/31/2015 7:15:29 AM	12/31/2015 7:17:22 AM	113
Powell Rd. (new)	28375	12/31/2015 7:18:20 AM	12/31/2015 7:20:10 AM	110
Powell Rd. (new)	28375	12/31/2015 7:20:39 AM		146301
			HH MM SS	1554 24 51
Input: Primary Power				
Powell Rd. (new)	28375	10/20/2015 1:34:39 PM	10/20/2015 2:13:36 PM	2337
			HH MM SS	00 38:57

Cycle Timer Shutdown 12hrs Daily		Automatic Flare Cycling Runs 12 hrs on and 12 hrs off daily
<b>*NOT ALL ALARMS SHUTDOWN THE SYSTEMS</b>		HH:MM:SS
Flare Downtime Mechanical		1554:24:51
October Daily Shutdown		360
November Daily Shutdown		372
December Daily Shutdown		360
Total		2646:24:51



## **Autodialer Protocol for Powell Rd. Landfill**

(Revised: 3/25/2015)

**A call out log / summary must be submitted to Robin Jones, Waste Management (WM) via email ([rjones2@wm.com](mailto:rjones2@wm.com)) at the end of each month for all Omni alarm calls.**

1. The unit is programmed to call up to two phone numbers and send three e-mails when in an alarm mode.
2. WM has first response priority to acknowledge the alarm before the unit calls additional parties.
3. WM personnel are called in order of response priority as follows:
4.

Tom Miller (WM)	1-513-265-8851
Tom Miller (WM)	(Email Message Sent)
5. To acknowledge an alarm call received from the unit, the responding party must respond verbally to activate the alarm message. The automated call will recite the alarm message such High Level or Power Failure. The responding party must press "7" to acknowledge the alarm. If the called party misses the call from the autodialer, the party must call the Omnisite phone number (1-888-947-1212) and enter their assigned 8 digit voice pin number assigned to responding party. Once the alarm is acknowledged, and the Omni unit reaches it's normal operating functions it will notify you with a "NOW NORMAL", which means the function in alarm has reached an acceptable level and is operating correctly.
6. Alarm notification via E-mail will occur when all attempts via telephone have failed. To acknowledge this alarm click on the acknowledge alarm link and a reply will be sent to you via E-mail stating that the alarm has been acknowledged.
7. Alarm response party will initiate the appropriate phone calls and/or physically visit the site to respond to the alarm condition and perform the necessary correction procedure within 12 hours of autodialer contact.

### **PILOT FAILURE**

- **WM will visit the site to check/refill the propane pilot system including the propane supply tank and restart the flare.**

### **FLAME OUT (low temperature or loss of flame/UV scanner signal alarm)**

- **Flare will attempt to relight if flame-out condition occurs. WM will ensure restart has been achieved and/or visit the site to inspect the flame supervisory system components and restart the flare. Routine daily flare shutdowns (shutdowns initiated by the control panel cycle timer) will activate this alarm channel. The only action that needs to be taken during the programmed shutdown time frame (8:00 PM shutdown thru 8:00 AM start-up) is to acknowledge the alarm.**

### **FLARE INLET GAS HIGH TEMPERATURE & MANUAL RUN TIMER SHUTDOWN**

- **WM will visit the site to inspect the LFG collection system for any signs back draft in the flare piping and regain normal operations of the LFG collection system or reset the manual timer, set the control panel to automatic mode, and restart the system.**

**TANK 75% FULL (UST 75% full level alarm)**

- WM will contact Veolia Transportation (937-237-1097) to schedule an appropriate haul date for fluid disposal. Veolia Transportation will haul at least one full load for any one call-out event. The driver will determine if there is another load ready to haul after pulling the first one and if so, the driver will schedule an immediate return trip to the site to pull another load. Veolia Transportation is responsible to coordinate disposal with United Wastewater (513-733-4666) and will provide and complete a wastewater manifest to United Wastewater and WM.

**TANK FULL (UST high level alarm)**

- Correction procedure the same as TANK 75% FULL alarm; WM will contact Veolia Transportation to schedule an appropriate haul date, etc., to reduce the fluid to an appropriate tank level. NOTE: During the high level alarm, the air compressor power is shut-off and returns to service once the high level float lowers. WM will also respond to any down flare alarms as a result of a "high level" alarm condition.

**COMPRESSOR LOW PRESSURE (low air pressure alarm)**

- WM will confirm power supply to the site and inspect the air compressor and associated components for system pressure leaks or problems. Air Technologies (614) 342-6247, or (local air compressor Service Company) will be contacted if repairs or troubleshooting are required for the air compressor or air dryer system.

**FLARE FAILURE (pilot ignition system was initiated three times in 80 minutes)**

- Alarm indicates that the pilot ignition system was lit three times in three hours. WM will assess the condition of the system and determine if the flare was able to relight after the third ignition sequence over the phone. If the system was successful in achieving normal operations after the third ignition, WM will monitor flare operations via phone for any continued trouble (the PLC is NOT programmed to shut down the entire system during this alarm. With the PLC being programmed in this fashion, it gives the flare additional attempts to relight and operate if successful). If it is determined that the flare was unable to relight after the third ignition in three hours, an WM technician will visit the site to troubleshoot and correct the system to regain normal operations. If the pilot ignition system is initiated three times in three hours, a problem most likely exists within the LFG system that warrants attention.

In the event of a power outage (power related shutdown) PILOT FAILURE and FLARE INLET GAS HIGH TEMPERATURE & MANUAL RUN TIMER SHUTDOWN will both be activated at the same time. Additionally, the Omni will call out with its own internal "Power Is Off" alert.

**APPENDIX E.**

**LANDFILL GAS AND CONDENSATE COLLECTION SYSTEMS  
MAINTENANCE SUMMARY REPORTS**

**Waste Management, Powell Rd Landfill**  
**Landfill Gas and Condensate Collection Systems Maintenance Summary Report**

**1/2015 to 3/2015**

**WM Completed Maintenance**

<b>Date</b>	<b>System Repaired</b>	<b>Proactive/ Reactive</b>	<b>Diagnosis of Problem Causing Reactive Action</b>	<b>Corrective Action / Description of Maintenance Performed</b>
2/5/2015	Fence	Reactive	Attempted fence theft	Couch fence repaired and reinstalled approx. 220' fence along the river
3/5/2015	Gas	Reactive	Broken 2"airline to flare	Removed air line and installed a 2" valve.
3/5/2015	Alarm	Reactive	Unknown no omni alarm notification on flare shutdown or restart	Flare restarted without issue; Notified SAS to investigate and repair the alarm notification for flare shutdowns.

**Additional Comments:** Flare valve was ordered to replace existing actuated valve not operating normally. It will be installed in the first QTR of 2015.

**Waste Management, Powell Rd Landfill**  
**Landfill Gas and Condensate Collection Systems Maintenance Summary Report**

**4/1/2015 to 6/2015**

**WM Completed Maintenance**

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
6/16/2015	Leachate			SAS removed pumps from 8, 9, 10, & 11; stopped job due to weather. Will reschedule.

**Additional Comments:**

Flare valve will be replaced when WM and SAS schedule removal of remaining pumps.

**Waste Management, Powell Rd Landfill**  
**Landfill Gas and Condensate Collection Systems Maintenance Summary Report**

**6/2015 - 9/2015**

**WM Completed Maintenance**

<b>Date</b>	<b>System Repaired</b>	<b>Proactive/ Reactive</b>	<b>Diagnosis of Problem Causing Reactive Action</b>	<b>Corrective Action / Description of Maintenance Performed</b>
8/7/2015	Gas	Reactive	Actuated flare valve not working	The actuated valve was replaced
8/31/2015	Leachate	Proactive	None	SAS Removed pneumatic pumps from extraction wells.
9/1/2015	Leachate	Proactive	None	SAS Removed pneumatic pumps from extraction wells.
9/2/2015	Leachate	Proactive	None	SAS Removed pneumatic pumps from extraction wells.
9/3/2015	Leachate	Proactive	None	SAS Removed pneumatic pumps from extraction wells.

**Additional Comments:** All pumps have been removed from all of the extraction wells. The pumps in the East and West sumps are still operational.

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**Waste Management, Powell Rd Landfill****Landfill Gas and Condensate Collection Systems Maintenance Summary Report****10/2015 - 12/2015****WM Completed Maintenance**

Date	System Repaired	Proactive/ Reactive	Diagnosis of Problem Causing Reactive Action	Corrective Action / Description of Maintenance Performed
10/9/2015	Gas	Reactive	Animals chewing on the Fernco caps and airlines	Replaced the damaged caps at G/L 6, 7, & 24
11/6/2015	Gas	Reactive	Animals chewing on the Fernco caps and airlines	Replaced the damaged caps at G/L 13,8,14,22,26, & 23 PVC caps
12/11/2015	Fence	Reactive	River flooding	Replaced approx. 200 ft of the south fence
12/11/2015	Fence	Reactive	Trespassers cutting fence	Repaired a section of the north fence

**Additional Comments:**

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## **APPENDIX F.**

### **BLOWER/FLARE STATION DATA SHEETS**



# Blower / Flare Station Data

Technician: Tom Miller

Date: 3/5/2015

Client: R. Jones, WM

Site: Powell Rd

Temperature: 19

Barometric Press.: 29.44

## Before Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	40.5	24.2	5.3	30	-18.9	61	349.8	None
Blower Out	40.3	23.3	5.9	30.5	6.1	61	349.8	None

## After Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	45.6	26.9	3.9	23.6	-21.9	60	349.8	None
Blower Out	43.9	26.4	4.3	25.4	6.4	60	349.8	None

## Blower Data:

	Yes	No	Comments
Blower Operating Properly?	x		
Motor Operating Properly?	x		

	Yes	No		Yes	No
Lube Blowers:	x		Check Valves:	x	
Check Belts/Drive:	x		Check Actuator:	x	
Drain Blower:	x		Check Flame Arrestor:	x	
Check Propane: PSI 75%	x		Check Compressor:	x	
Blower Hours:	23436.7		Check Auto-Dialer:	x	
Blower Amps:	11.7		Long Distance Service Active:	N/A	

## Flare Data:

Flare Temperature:	1117	Check Ignition System:	x
Drain Flare Stack:	x	Other:	None

## Compressor Data:

System Pressure:	131	psi	Check Compressor Drains:	x
Check Motor:	x			

<b>Comments:</b>	Flare was down when arrived onsite. Did not receive alarm notification from omni.
	Contacted SAS to diagnose problem with omni unit.

# Blower / Flare Station Data

Technician: Tom Miller  
 Date: 6/16/2015  
 Client: R. Jones, WM  
 Site: Powell Rd  
 Temperature: 78  
 Barometric Press.: 30.11

## Before Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	32.3	25.1	0.7	41.9	-27.3	72	349	None
Blower Out	31.2	24.8	0.8	43.2	7.3	76	349	None

## After Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	34.3	26.4	0.5	38.8	-29.5	75	347	None
Blower Out	33.6	24.7	0.6	41.1	7.6	78	347	None

## Blower Data:

	Yes	No	Comments
Blower Operating Properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Motor Operating Properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

	Yes	No		Yes	No
Lube Blowers:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Check Valves:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Belts/Drive:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Check Actuator:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Drain Blower:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Check Flame Arrestor:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Propane: PSI <u>68%</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Check Compressor:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Blower Hours:	<u>24676.8</u>		Check Auto-Dialer:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Blower Amps:	<u>10.6</u>		Long Distance Service Active:	<u>N/A</u>	<input type="checkbox"/>

## Flare Data:

Flare Temperature:	<u>1227</u>	Check Ignition System:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Drain Flare Stack:	<input checked="" type="checkbox"/>	Other:	<u>None</u>	

## Compressor Data:

System Pressure:	<u>121</u>	psi	Check Compressor Drains:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check Motor:	<input checked="" type="checkbox"/>	<input type="checkbox"/>			

Comments:	

# Blower / Flare Station Data

Technician: Tom Miller

Date: 9/18/2015

Client: R. Jones, WM

Site: Powell Rd

Temperature: 82

Barometric Press.: 29.99

## Before Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	37	22.4	5.7	34.9	29.7	81	350	None
Blower Out	35.9	21.8	6.3	36.1	8.1	80	350	None

## After Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	38.3	21.1	4.6	36	29.4	80	349	None
Blower Out	37.1	22.4	5.1	36.3	7.3	80	349	None

## Blower Data:

	Yes	No	Comments
Blower Operating Properly?	x		
Motor Operating Properly?	x		

	Yes	No		Yes	No
Lube Blowers:	x		Check Valves:	x	
Check Belts/Drive:	x		Check Actuator:	x	
Drain Blower:	x		Check Flame Arrestor:	x	
Check Propane: PSI 60%	x		Check Compressor:	x	
Blower Hours:	24676.8		Check Auto-Dialer:	x	
Blower Amps:	11.96		Long Distance Service Active:	N/A	

## Flare Data:

Flare Temperature:	1172	Check Ignition System:	x	
Drain Flare Stack:	x	Other:	None	

## Compressor Data:

System Pressure:	149	psi	Check Compressor Drains:	x	
Check Motor:	x				

Comments:	

# Blower / Flare Station Data

Technician: Tom Miller

Date: 12/11/2015

Client: R. Jones, WM

Site: Powell Rd

Temperature: 52

Barometric Press.: 29.90

## Before Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	39.3	25	4.1	31.6	-31.6	53	349.8	None
Blower Out	37.8	24.6	4.5	33.1	6.8	81	349.8	None

## After Tuning

Location	CH4	CO2	O2	Bal.	Press./Vac.	Temp.	Flow	Comments
Blower In	36.4	22	4.4	37.2	-30.9	56	348.6	None
Blower Out	37.1	22.4	5.1	36.3	6.9	81	348.7	None

## Blower Data:

	Yes	No	Comments
Blower Operating Properly?	x		
Motor Operating Properly?	x		

	Yes	No		Yes	No
Lube Blowers:	x		Check Valves:	x	
Check Belts/Drive:	x		Check Actuator:	x	
Drain Blower:	x		Check Flame Arrestor:	x	
Check Propane: PSI 54%	x		Check Compressor:	x	
Blower Hours:	24935.4		Check Auto-Dialer:	x	
Blower Amps:	10.99		Long Distance Service Active:	N/A	

## Flare Data:

Flare Temperature:	975	Check Ignition System:	x	
Drain Flare Stack:	x	Other:	None	

## Compressor Data:

System Pressure:	147	psi	Check Compressor Drains:	x	
Check Motor:	x				

Comments:	Totalizer 54431951

## **APPENDIX G.**

### **LIQUID HAULING DATA**

2015 MONTHLY LIQUID VOLUMES  
POWELL ROAD LANDFILL

Month	Gallons	in. Rain*
Jan-15	9,800	2.97
Feb-15	3,000	1.39
Mar-15	0	3.91
Apr-15	0	5.26
May-15	0	1.81
Jun-15	0	7.88
Jul-15	0	4.60
Aug-15	0	1.94
Sep-15	4,000	0.87
Oct-15	0	3.69
Nov-15	0	2.44
Dec-15	0	4.40
<b>Total</b>	<b>16,800</b>	<b>41.15</b>
<b>Monthly Avg</b>	<b>1,400</b>	<b>3.43</b>
<b>Daily Avg</b>	<b>46.03</b>	<b>0.11</b>

\*NCDC(NOAA) - Dayton International Airport

**APPENDIX H.**

**LANDFILL LIQUID  
ANALYTICAL DATA SUMMARY**

**TABLE H-1.**  
**PARAMETERS DETECTED IN COLLECTION TANK SAMPLES DURING O & M MONITORING**  
**POWELL ROAD LANDFILL**

Parameter	2/17/2000	3/2/2000	3/13/2000	4/10/2000	05/01/00	08/15/00	11/13/00	02/19/01	05/21/01	5/6/02	5/8/03	5/10/04	5/2/05	5/8/06	5/8/07	5/19/08	5/04/09	5/03/10	5/02/11	4/30/12	5/06/13	5/13/14	5/04/15
<b>Inorganics and Metals (mg/L)</b>																							
Alkalinity						4940	3790	4160	2520	2420	2970	339	2940	3950	2080	2230	1250	2480	1450B	4050	4470	2870	3760
BOD - Five Day	176	262	252	<374	207	156	143	140	70.8	56.9	89.6	190	307	105	50.4	31.2	49.6	59.8	16.6	61	92.2	86.1	46.3B
Chloride	1870	2090	2130	865	<0.5 R	1690	678	1020	937	813	1680	2340	2190	2860	1020	724	400	902	325	1600	1650	1360	1660
COD	2200	2520	2560	908	1720	1520	1540	1660	852	650	1250	1360	1250	1490	569	554	288	763	209	1370	1540	993	1440
Cyanide, Total	<0.005	<0.005	0.130	<0.005	<0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Fats, Oils, and Grease	<5	12	153	<5	<5.0	<5.0	6.0	<5.0	<5.0	6.2	10.4	<5.0	<5.0	<5.0	<5.0	<5.0	10.1	<5.0	<4.9	<5.0UJ	<5.0	8.9	<5.0
Fluoride					<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrogen, Ammonia	700	820	890	260	704	901	1120	582	368	235	684	792	570	699	316	273	152	184	93.2	869	677	430	680
Nitrogen, Nitrate + Nitrite		0.03	<0.02	0.03	<0.05	<2.8	<1.0	<0.50	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.051	<0.050	<0.050	<0.050	<0.050
Phosphorus		5.79	4.36	1.62	2.8	2.9	3.7	2.6	1.6	1.5	3.0	3.4	1.8	4.2	0.42	0.54	0.583	1.68	0.15	3.3	4.0	2.6	4.8
pH, (Lab) measured in S.U.	7.53	7.4	7.35	6.92	6.55	7.68	7.72	7.45	7.32	7.40	7.63	7.70	7.54	7.52	7.30	7.39	7.32	7.37	7.37	7.55	7.73	7.69	7.87
Solids, Total Dissolved	6060	4300	6250	2890	5150	5900	5950	5780	3150	3110	4780	5540	4480	6520	2800	3070	1910	3480	1660	5610	5460	4930	4780
Solids, Suspended	9	8	11	39	72.0	42.5	8.5	11.0	44.0	18.0	40.0	20.0	15	8	<4.0	30.4	14.4	8.8	13.2	12.8	<4.0	8.8	<4.0
Sulfate	60	84	75	106	92.9	101	128	122	145	116	117	172	181	118	106	140	<100	67.3	135	94.5	85.7	54.1	<500
Sulfide	<2	14.7	15.9	<2	2.0	4.3	<2.0	<2.0	2.4	2.1	3.2	<2.0	4.4	4.8	<2.0	<2.0	<2.0	<2.0	<2.0	<6.7	<2.0	<2.0	<2.0
Total Organic Carbon (TOC)		673	725	290	483	527	567	511	246	194	461	411	365	455	185	146	97.5	203	63.0	382	359	330	363
Aluminum	0.33	252	0.33	0.12	0.41	0.38	0.30	0.29	<0.10	<0.10	0.22	0.23	0.22	0.19	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.16	0.13	0.11
Antimony	<0.01	0.0023	<0.0050	<0.005	<0.006	<0.0063	<0.0063	<0.006	<0.006	<0.003	<0.003	<0.003	<0.003	<0.015	<0.015	<0.003	<0.003	<0.005	<0.005	<0.015	<0.015	<0.015	<0.003
Arsenic	0.009	<0.025	0.0019	<0.005	0.046	0.028	0.029	0.036	0.014	0.015	0.028	0.034	0.020	0.033	0.011	0.014	0.0071	0.0169	0.0073	0.039	0.029	0.024	0.028
Barium	0.299	0.218	0.267	0.253	0.35	0.39	0.37	0.35	0.27	0.44	0.34	0.37	0.36	0.37	0.33	0.31	0.346	0.382	0.29	0.42	0.39	0.33	0.34
Beryllium	<0.0020	<0.0020	<0.020	<0.0020	<0.004	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium	<0.0020	<0.0020	<0.0050	<0.0050	0.0026	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium	56	52	59.1	118	88.7	71.4	68.6	65.8	102	140	68.9	68.0	95.9	64.2	131	140	184	158	186	67.6	47.3	53.9	43.6
Chromium	0.0529	0.0481	0.0688	0.0231	0.062	0.068	0.077	0.080	0.035	0.021	0.057	0.062	0.06	0.07	0.018	0.018	0.0132	0.0276	<0.010	0.055	0.055	0.047	0.055
Cobalt	0.0274	0.0221	0.0286	0.0201	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Copper	0.0075	<0.015	0.0222	<0.010	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Iron	5.39	7.3	7.31	17.5	11.9	3.2	1.8	6.9	6.2	7.3	4.8	6.4	1.6	5.2	9.8	6.6	5.04	5.60	4.0	3.7	4.0	5.2	3.8
Lead	0.0212	0.0161	0.0202	0.0104	0.023	0.014	0.018	0.022	0.0067	0.01	0.0085	0.020	0.025	0.01	<0.005	<0.005	<0.005	<0.005	0.0092	0.0059	0.0083	0.0074	0.0098
Magnesium	126	111	145	64.3	115	116	128	118	78.3	98.3	114	140	105	132	96.8	90.6	65.8	89.0	65.7	150	120	108	116
Manganese	0.122	0.092	0.095	0.286	0.18	0.12	0.11	0.092	0.23	0.25	0.10	0.093	0.11	0.079	0.18	0.20	0.326	0.266	0.30	0.080	0.068	0.065	0.066
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Nickel	0.140	0.114	0.156	0.126	0.16	0.15	0.16	0.17	0.085	0.062	0.130	0.130	0.14	0.16	0.062	0.052	<0.040	0.0775	<0.040	0.16	0.14	0.12	0.14
Potassium	647	564	836	259	401	955	628	821	322	301	523	571	560	681	258	262	159	325	119	625	574	505	590
Selenium	<0.050	<0.0250	<0.0050	<0.010	<0.005	<0.0066	<0.0066	<0.0050	<0.0050	<0.005	0.036	0.014	<0.005	<0.025	<0.025	0.0053	<0.005	<0.005	<0.025	0.033	<0.025	<0.025	<0.005
Silver	<0.005	<0.001	<0.005	<0.0025	<0.003	<0.0030	<0.0030	<0.0030	<0.0030	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Sodium	1400	1170	1640	512	1720	2240	1780	1760	693	642	1100	1240	1070	1410	583	552	334	711	248	1420	1270	1040	1190
Thallium	<0.0020	<0.0020	<0.0050	<0.0050	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	0.066	0.081	0.067	0.086
Tin	<2.0	<2.0	<2.0	<2.0	0.094	0.085	0.093	0.11	<0.010	0.021	0.062	0.054	0.097	0.088	0.017	0.010	0.0134	0.0379	<0.010	0.066	0.081	0.067	0.086
Vanadium	<0.050	<0.050	<0.050	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Zinc	0.181	0.120	0.164	0.0964	0.16	0.088	0.096	0.10	0.052	0.055	0.057	0.070	0.11	0.068	<0.020	<0.020	<0.020	0.0261	0.026	0.039	0.027	0.029	0.032



**TABLE H-1.**  
**PARAMETERS DETECTED IN COLLECTION TANK SAMPLES DURING O & M MONITORING**  
**POWELL ROAD LANDFILL**

Parameter	2/17/2000	3/2/2000	3/13/2000	4/10/2000	05/01/00	08/15/00	11/13/00	02/19/01	05/21/01	5/6/02	5/8/03	5/10/04	5/2/05	5/8/06	5/8/07	5/19/08	5/04/09	5/03/10	5/02/11	4/30/12	5/06/13	5/13/14	5/04/15
	Detected Volatile Organic Compounds (ug/L)																						
Acetone	1280	3280	861	630	2700	470	<100	1100	470	1400	350	<100	680	380	810	<100	<100	300	<2000	<2000	<200	<100	21
Benzene	<10	10.2	<10	<20	<8	<3	<2	<2	<2	<2	<4	<3	<3	<18	<7	<7	<20	<20	<40	<40	<20	<10	<2.0
2-Butanone (MEK)	1080	1530	1110	849	3100	730	590	1300	540	1600	470	<29	700	390	1000	<26	<100	250	<100	<100	<200	<100	<20
Carbon Disulfide	<10	<10	<10	<20	<8	<5	7	<5	<5	<5	<5	<5	<5	<24	<5	<5	<20	<20	<100	<100	<20	<10	<2.0
Chlorobenzene	<10	16.4	<10	<20	<7	<3	<2	3	<2	4	<4	<2	<2	<16	<6	<6	<20	<20	<40	<40	<20	<10	<2.0
Chloroethane	<50	<50	<50	<100	<8	<5	<5	<5	<5	6	5	<5	<5	<16	<6	<6	<20	<20	<100	<100	<20	<10	<2.0
1,2-Dibromo-3-chloropropane (DBCP)	<50	<50	<50	<100	<16	<6	<3	<3	<2	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.010	<0.011	0.037J+	<0.011	0.090	0.090	0.043	0.051
cis-1,2-dichloroethene		24.2	13.7	<20	17	7	<5	<5	<5	7	<5	<5	<5	<18	<7	<7	<20	<20	<100	<100	<20	<10	<2.0
1,4-Dichlorobenzene	<100	<100	<100	<100	14	6	<2	9	4	18	10	5	8	<18	<7	<7	<20	<20	<40	<40	<20	<10	<2.0
Ethylbenzene	59.3	127	76.9	38.4	20	7	<2	<2	8	21	11	<3	3	<17	<7	<7	<20	<20	<40	<40	<20	<10	<2.0
4-Methyl-2-pentanone (MIBK)	143	283	130	<250	190	86	120	120	<50	82	51	<50	<50	<120	64	<50	<100	<100	<1000	<1000	<100	<50	10
Methylene chloride	<50	<50	<50	<100	75	<5	<5	32	<5	9	<8	4	<4	<22	18	<9	<20	<20	<20	<20	<20	<10	<2.0
Toluene	103	188	124	77.4	52	14	13	16	14	14	17	<4	18	<17	16	<10	<20	<20	<40	<40	<20	<10	<2.0
Xylenes	198	463	278	60.0	100	50	39	44	39	120	61	<10	43	<46	44	<19	<60	<60	<100	<100	<40	<20	<4.0
Vinyl Chloride	<10	<10	<10	<20	<8	<3	<2	<2	<2	3	<4	<6	<6	<12	<5	<5	<20	<20	<20	<20	<10	<2.0	
	Detected Semi-Volatile Organic Compounds (ug/L)																						
1,4-Dioxane					76	22	320	210	250	810E, 840E	400	510	200	650	270E, 300E	290E	130	250	130	390	460	<460 UJ	190
Meta & para-methylphenol (m & p - Cr	<100	<100	128	<100	<37	<10	<10	<10	<10	10	<32	<32	<40	<20	<10	<10	<9.4	<95	<19	<190	<460 UJ	<63	
bis (2-ethylhexyl) phthalate	<100	<100	<100	<100	110	29	25	28	13	<10	<65	<68	<27	<26	<10	<10	<10	<24	<9.4	<9.5	<94	<460 UJ	<32
	Detected Herbicides (ug/L)																						
Silvex (2,4,5-TP)	<5.1	<5.0		1.52	0.24J	2.2	1.3	2.9	2.5	<1.0	<1.0	<1.1	<1.0	4.6	<1.0	<1.0	<0.48	<0.47	<0.47	<0.47UJ	2.1	<0.47	<4.8
2,4-D	<5.1	<50.3		<5.15	2.3	<1	<1	<1	<1.0	<1.0	1.4	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	<0.47	<0.47	<0.47UJ	<0.47	<0.47	<4.8
	Detected Pesticides (ug/L)																						
Gamma-BHC(Lindane)	<0.20	<0.20	<2.0	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.047	0.055J-	<0.047	<0.047UJ	<0.94	<0.46	<0.46
Heptachlor	<0.20	<0.20	<2.0	<0.20	<0.05	<0.05	<0.05	<0.050J	<0.094	<0.05	<0.05	<0.05	0.11	<0.05	0.052	0.082	0.095	<0.048	<0.047	<0.047UJ	<0.94	<0.46	<0.46
	Detected PCBs (ug/L)																						
PCB 1242	<0.2	<0.2	<2.0	<0.2	1.2	0.61	0.51	<1.0J	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.94	<0.95UJ	<0.94UJ	<0.92 UJ	<0.92
	RSK Results (ug/L)																						
Ethane												<190	<24	<47	<18	<18	<150	<150	<2000	<400	<40	<40	<40
Ethene												<98	<12	<25	<15	<15	<150	<150	<1500	<300	<30	<30	<30
Methane												1800	320	460	220	500	570	140	<1000	550	270	940	410

J = estimated value, UJ = Estimated non-detect result

Note: Samples collected from UST after start-up of liquid extraction system.

## **APPENDIX I.**

### **WELLFIELD MONITORING DATA**

# Wellfield Monitoring Data

Technician: Tom Miller  
 Date: 3/5/2015  
 Client: R. Jones, WMI  
 Site: Powell Rd  
 Temperature: 19  
 Barometric Press.: 29.44

ID	DATE	TIME	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN	3/5/2015	12:13	40.5	24.2	5.3	30	-18.9	61	
POWLBLOT	3/5/2015	12:17	40.3	23.3	5.9	30.5	6.1	61	
POWL0001	3/5/2015	12:40	66.9	31.6	0	1.5	-2.2	40	
POWL0002	3/5/2015	12:46	66.5	33.4	0	0.1	-15.4	59	
POWL0003	3/5/2015	12:51	0.5	6	20.6	72.9	-0.3	30	
POWL0004	3/5/2015	12:54	63.2	29.6	0.1	7.1	-7.4	47	
POWL0005	3/5/2015	1:01	2	1.2	22.2	76.4	-7.3	56	
POWL0006	3/5/2015	1:58	51	27	0.8	21.2	-11.7	54	
POWL0007	3/5/2015	2:02	48.7	34.5	0	16.8	-13.6	70	
POWL0008	3/5/2015	2:05	30.6	30.4	0	39	-3.2	58	
POWL0009	3/5/2015	2:09	47.1	32	2.9	18	-17.8	45	
POWL0010	3/5/2015	2:12	0.7	6.2	19.6	73.5	-1	41	
POWL0011	3/5/2015	2:15	64.9	35	0	0.1	-4.3	54	
POWL0012	3/5/2015	2:20	43.4	32.5	3.9	20.1	-8.6	60	
POWL0013	3/5/2015	1:40	54	32.1	0	13.9	-10.9	58	
POWL0014	3/5/2015	1:26	11.8	11.5	13.4	63.3	13.1	34	
POWL0015	3/5/2015	1:22	66.6	31.2	0.8	1.4	-6.8	47	
POWL0016	3/5/2015	12:25	41.4	17.2	0.5	40.9	-0.2	45	
POWL0017	3/5/2015	12:31	61.4	32.5	1.6	4.5	-7.3	41	
POWL0018	3/5/2015	12:35	27.9	17.5	11.5	43.1	-1	38	
POWL0019	3/5/2015	1:15	76.2	20.4	1.2	2.2	-18.8	34	
POWL0020	3/5/2015	1:20	63.8	18.9	4.6	12.7	-18.6	33	
POWL0021	3/5/2015	1:44	51.8	22.4	4	21.8	-10.5	37	
POWL0022	3/5/2015	1:48	71.9	21.9	0.5	5.7	-18.4	30	
POWL0023	3/5/2015	1:50	65.4	28.2	1.9	4.5	-18.6	37	
POWL0024	3/5/2015	1:54	28.3	11.8	12.1	47.8	-1.2	38	
POWL0025	3/5/2015	1:06	59	40.6	0.3	0.1	-12.4	33	
POWL0026	3/5/2015	1:11	57.7	28.1	4	10.2	-18.6	36	
POWLBLIN	3/5/2015	2:31	45.6	26.9	3.9	23.6	-21.9	44	
POWLBLOT	3/5/2015	2:26	43.9	26.4	4.3	25.4	6.4	60	

Comments:

# Wellfield Monitoring Data

Technician: Tom Miller  
 Date: 6/16/2015  
 Client: R. Jones, WM  
 Site: Powell Rd  
 Temperature: 78  
 Barometric Press.: 30.11

ID	DATE	TIME	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN	6/16/2015	12:13	27.6	27.7	0.9	43.8	-27.3	72	
POWLBLIN	6/16/2015	12:17	28.1	27.5	1	43.4	7.4	76	
POWL0001	6/16/2015	12:40	27.9	30.8	0.3	41	-2.6	73	
POWL0002	6/16/2015	12:46	51	32.3	0	16.7	-26.4	77	
POWL0003	6/16/2015	12:51	44.9	35.3	0.1	19.7	-4.5	73	
POWL0004	6/16/2015	12:54	18.4	24.4	1.7	55.5	-4.4	74	
POWL0005	6/16/2015	1:01	33.3	28.1	4.7	33.9	-2.8	75	
POWL0006	6/16/2015	1:58	48.5	34.9	0.7	15.9	-4.5	77	
POWL0007	6/16/2015	2:02	27	31.1	0.3	41.6	-13.5	74	
POWL0008	6/16/2015	2:05	12.5	25.7	2.3	59.5	-1.8	77	
POWL0009	6/16/2015	2:09	28.2	26	3.8	42	-5.5	68	
POWL0010	6/16/2015	2:12	8.9	0.8	4.9	85.4	-1.7	70	
POWL0011	6/16/2015	2:15	19.7	27.3	1.7	51.3	-8.3	72	
POWL0012	6/16/2015	2:20	3.7	4.1	18.3	73.9	-1.8	72	
POWL0013	6/16/2015	1:40	33.1	29.9	0.9	36.1	-6.9	69	
POWL0014	6/16/2015	1:26	18.4	0.9	18.4	62.3	-0.5	67	
POWL0015	6/16/2015	1:22	20.1	23	1.3	55.6	-25	71	
POWL0016	6/16/2015	12:25	1.7	19.3	4.3	74.7	-0.4	76	
POWL0017	6/16/2015	12:31	15.2	22.1	4.6	58.1	-7.4	74	
POWL0018	6/16/2015	12:35	31.7	27.8	2.1	38.4	-2.3	71	
POWL0019	6/16/2015	1:15	58.3	18.6	2.4	20.7	-26.1	69	
POWL0020	6/16/2015	1:20	50.6	17.4	4.5	27.5	-10.6	69	
POWL0021	6/16/2015	1:44	0	0.2	20.6	79.2	2.1	72	
POWL0022	6/16/2015	1:48	34.1	20.8	0.7	44.4	-26.2	80	
POWL0023	6/16/2015	1:50	52.8	32.1	0.4	14.7	-25.7	67	
POWL0024	6/16/2015	1:54	38.9	20.3	9.2	31.6	-26.4	72	
POWL0025	6/16/2015	1:06	40.6	17.2	7.1	35.1	-11.2	77	
POWL0026	6/16/2015	1:11	61.3	30.3	0.8	7.6	-24.5	67	
POWLBLIN	6/16/2015	2:31	29.3	27.5	0.9	42.3	-22.6	75	
POWLBLIN	6/16/2015	2:26	26.8	27.1	1.9	44.2	6.4	78	

Comments:

# Wellfield Monitoring Data

Technician: Tom Miller

Date: 9/18/2015

Client: R. Jones, WM

Site: Powell Rd

Temperature: 82

Barometric Press.: 29.99

ID	DATE	TIME	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN	9/18/2015	3:08	37	22.4	5.7	34.9	29.7	81	
POWLBLLOT	9/18/2015	3:14	35.9	21.8	6.3	36.1	8.1	80	
POWL0001	9/18/2015	4:32	28.8	15.4	6.8	49	-2.9	75	
POWL0002	9/18/2015	4:35	53.2	35.3	0	11.5	-22.1	67	
POWL0003	9/18/2015	5:02	43.4	29.2	0.1	27.3	-3.3	69	
POWL0004	9/18/2015	5:06	13.4	12.3	9.1	65.2	-5.1	78	
POWL0005	9/18/2015	5:25	33.5	6.4	11.8	48.3	-2.6	76	
POWL0006	9/18/2015	5:28	41.6	20.3	0.1	38	-3.9	73	
POWL0007	9/18/2015	5:31	28.8	22	8.9	40.3	-10.8	84	
POWL0008	9/18/2015	5:34	13.4	12.3	9.1	65.2	-2.3	82	
POWL0009	9/18/2015	3:50	25.2	18.6	10.2	46	-6.1	76	
POWL0010	9/18/2015	3:46	4.5	17	0.4	78.1	-1.1	74	
POWL0011	9/18/2015	3:18	23.5	26.9	0	49.6	-9.2	76	
POWL0012	9/18/2015	3:15	3.8	3.4	17.7	75.1	-1.7	76	
POWL0013	9/18/2015	3:49	36.6	16.3	9.1	38	-6.6	79	
POWL0014	9/18/2015	3:54	17.3	13.8	10.3	58.6	-1.8	78	
POWL0015	9/18/2015	3:57	27.5	25.4	0.4	46.7	-23.7	68	
POWL0016	9/18/2015	4:01	1.5	1.5	19.9	77.1	-1	92	
POWL0017	9/18/2015	4:03	19.2	24.3	3.8	52.7	-9.6	74	
POWL0018	9/18/2015	4:29	33.9	25.5	3.4	37.2	-2.5	64	
POWL0019	9/18/2015	4:25	56.7	26.5	2.9	13.9	-26.2	78	
POWL0020	9/18/2015	4:07	54.7	31.1	0	14.2	-10.3	77	
POWL0021	9/18/2015	4:11	0	0.4	20.7	78.9	1.5	74	
POWL0022	9/18/2015	4:22	36.2	26.6	1.7	35.5	-24.5	75	
POWL0023	9/18/2015	4:23	55	33.3	0	11.7	-24.4	70	
POWL0024	9/18/2015	4:55	33	33.3	0.1	33.6	-25.3	73	
POWL0025	9/18/2015	4:58	41.6	20.3	0.1	38	-12.2	71	
POWL0026	9/18/2015	4:40	62.4	24.9	1.4	11.3	-22.8	68	
POWLBLIN	9/18/2015	5:41	38.3	21.1	4.6	36	29.4	80	
POWLBLLOT	9/18/2015	5:44	37.1	22.4	5.1	36.3	7.3	80	

Comments:

# Wellfield Monitoring Data

Technician: Tom Miller  
 Date: 12/11/2015  
 Client: R. Jones, WM  
 Site: Powell Rd  
 Temperature: 52  
 Barometric Press.: 29.90

ID	DATE	TIME	CH4	CO2	O2	Balance	Initial Static Press.	Temp. (Deg F)	Comments
POWLBLIN	12/11/2015	3:37	39.3	25	4.1	31.6	-31.6	58	
POWLBLIN	12/11/2015	3:39	37.8	24.6	4.5	33.1	6.8	81	
POWL0001	12/11/2015	4:50	26.9	22.2	3.5	47.4	-1.3	62	
POWL0002	12/11/2015	4:53	51.6	34.9	0	13.5	-3.7	52	
POWL0003	12/11/2015	5:29	43.2	30.9	0	25.9	-1.9	61	
POWL0004	12/11/2015	5:32	10.4	4.3	15.9	69.4	-0.7	67	
POWL0005	12/11/2015	5:22	35.3	26.9	0	37.8	-2.8	68	
POWL0006	12/11/2015	5:18	42.9	28	0.9	28.2	-5.3	67	
POWL0007	12/11/2015	5:11	27.7	25.8	0.7	45.8	-0.9	69	
POWL0008	12/11/2015	5:09	12.3	6.1	10.6	71	-1.1	70	
POWL0009	12/11/2015	5:06	13.8	21.8	1.9	62.5	-1	65	
POWL0010	12/11/2015	5:03	13.4	9.2	15.3	62.1	-0.8	64	
POWL0011	12/11/2015	4:37	24.3	21.2	4.1	50.4	-4	62	
POWL0012	12/11/2015	4:34	1.4	2	19.1	77.5	-0.1	58	
POWL0013	12/11/2015	4:12	38.6	29	2.7	29.7	-4.7	64	
POWL0014	12/11/2015	4:15	17.9	5.5	17.2	59.4	-1.8	62	
POWL0015	12/11/2015	4:18	29.9	23.8	2.2	44.1	-6	51	
POWL0016	12/11/2015	4:21	0	0.5	20.4	79.1	-0.3	56	
POWL0017	12/11/2015	4:24	21.3	26.7	4.1	47.9	-5.7	60	
POWL0018	12/11/2015	4:47	35.9	6.1	11.3	46.7	-2.5	53	
POWL0019	12/11/2015	4:44	54.9	25.5	3.4	16.2	-28.3	61	
POWL0020	12/11/2015	4:27	57.5	28.7	1.9	11.9	-29.6	58	
POWL0021	12/11/2015	4:30	1.1	3.7	16.3	78.9	-0.1	60	
POWL0022	12/11/2015	4:38	37	15.2	9.5	38.3	-5.7	60	
POWL0023	12/11/2015	5:01	50.5	23.4	3.8	22.3	-33.8	56	
POWL0024	12/11/2015	5:15	36.4	24.1	2	37.5	-0.5	67	
POWL0025	12/11/2015	5:26	42	28	2.1	27.9	-0.9	59	
POWL0026	12/11/2015	4:57	66.1	33.6	0.1	0.2	-1.6	58	
POWLBLIN	12/11/2015	5:42	36.4	22	4.4	37.2	-30.9	56	
POWLBLIN	12/11/2015	5:45	37.1	22.4	5.1	36.3	6.9	81	

Comments:

## **APPENDIX J.**

### **SIERRA MONITOR INSPECTION REPORTS**

## Powell Sierra Monitors

Date: 3/5/2015

Technician: TOM MILLER

	ADDRESS, NAME & PHONE NUMBER	MONITOR FUNCTIONING PROPERLY?	MONITOR CALIBRATED?	MONITOR NEEDS ATTENTION?
1	Onsite Compressor Building	Yes	No	No

COMMENTS: \_\_\_\_\_



## Powell Sierra Monitors

**Date:** 6/16/2015  
**Technician:** TOM MILLER

	ADDRESS, NAME & PHONE NUMBER	MONITOR FUNCTIONING PROPERLY?	MONITOR CALIBRATED?	MONITOR NEEDS ATTENTION?
1	Onsite Compressor Building	Yes	No	No

**COMMENTS:** \_\_\_\_\_

## Powell Sierra Monitors

**Date:** 9/21/2015

**Technician:** TOM MILLER

	ADDRESS, NAME & PHONE NUMBER	MONITOR FUNCTIONING PROPERLY?	MONITOR CALIBRATED?	MONITOR NEEDS ATTENTION?
1	Onsite Compressor Building	Yes	No	No

**COMMENTS:** \_\_\_\_\_

## Powell Sierra Monitors

**Date:** 12/11/2015

**Technician:** TOM MILLER

	ADDRESS, NAME & PHONE NUMBER	MONITOR FUNCTIONING PROPERLY?	MONITOR CALIBRATED?	MONITOR NEEDS ATTENTION?
1	Onsite Compressor Building	Yes	No	No

**COMMENTS:** \_\_\_\_\_

## **APPENDIX K.**

### **GAS PROBE MONITORING REPORTS**

**PERMANENT GAS PROBE MONITORING REPORT**  
**LANDFILL GAS EXTRACTION SYSTEM**  
**POWELL ROAD LANDFILL**

Combustible Gas Instrument Type:	CES Landtec GEM 5000	Serial No.:	GM5k0000-200-I
Date Last Calibrated:	3/5/2015	Method:	GA/Mode
Pressure Instrument Type:	CES Landtec GEM 5000	Serial No.:	GM5k0000-200-I
Water Level Instrument Type:	SOLINIST MODEL 101	Serial No.:	N/A
Weather Conditions:	19° Snow cover	Barometric Pressure:	29.44

Monitor Point	Time	Pressure In. W.C. (+/-)	Percent Methane	Water Level	Comments
GP-1	2:46	0.09	0.0	13.8	No Comments
GP-2	2:56	0.02	0.0	16.4	No Comments
GP-3	3:03	0.00	0.0	9.5	No Comments
GP-4	3:09	0.00	0.0	0.0	Could not get cap off for water level
GP-5	3:14	0.10	0.0	10.2	No Comments
GP-6	3:22	0.30	0.0	10.1	No Comments

Date Performed: 3/5/2015

By: TOM MILLER

**PERMANENT GAS PROBE MONITORING REPORT**  
**LANDFILL GAS EXTRACTION SYSTEM**  
**POWELL ROAD LANDFILL**

Combustible Gas Instrument Type:	CES Landtec GEM 5000	Serial No.:	GM5k0000-200-I
Date Last Calibrated:	6/16/2015	Method:	GA/Mode
Pressure Instrument Type:	CES Landtec GEM 5000	Serial No.:	GM5k0000-200-I
Water Level Instrument Type:	SOLINIST MODEL 101	Serial No.:	N/A
Weather Conditions:	78° Rain	Barometric Pressure:	30.11

Monitor Point	Time	Pressure In. W.C. (+/-)	Percent Methane	Water Level	Comments
GP-1	10:58	0.02	0.0	12.6	No Comments
GP-2	11:07	0.04	0.0	15.8	No Comments
GP-3	11:13	0.01	0.0	9.3	No Comments
GP-4	11:24	0.00	0.0	0.0	Could not get cap off for water level
GP-5	12:18	0.00	0.0	10	No Comments
GP-6	12:33	0.08	0.0	9.8	No Comments

Date Performed: 6/16/2015

By: TOM MILLER

**PERMANENT GAS PROBE MONITORING REPORT**  
**LANDFILL GAS EXTRACTION SYSTEM**  
**POWELL ROAD LANDFILL**

Combustible Gas Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Date Last Calibrated:	9/21/2015	Method:	GA/Mode
Pressure Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Water Level Instrument Type:	SOLINIST MODEL 101	Serial No.:	N/A
Weather Conditions:	77° Dry	Barometric Pressure:	30.1

Monitor Point	Time	Pressure In. W.C. (+/-)	Percent Methane	Water Level	Comments
GP-1	9:53	0.01	0.0	12.3	No Comments
GP-2	10:14	0.03	0.0	14.9	No Comments
GP-3	10:18	0.01	0.0	8.9	No Comments
GP-4	10:31	0.00	0.0	0.0	Could not get cap off for water level
GP-5	10:36	0.00	0.0	9.3	No Comments
GP-6	10:47	0.04	0.0	8.6	No Comments

Date Performed: 9/21/2015

By: TOM MILLER

**PERMANENT GAS PROBE MONITORING REPORT**  
**LANDFILL GAS EXTRACTION SYSTEM**  
**POWELL ROAD LANDFILL**

Combustible Gas Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Date Last Calibrated:	12/11/2015	Method:	GA/Mode
Pressure Instrument Type:	CES Landtec GEM 5000	Serial No.:	gm5k0000-200-I
Water Level Instrument Type:	SOLINIST MODEL 101	Serial No.:	N/A
Weather Conditions:	52° Dry	Barometric Pressure:	29.9

Monitor Point	Time	Pressure In. W.C. (+/-)	Percent Methane	Water Level	Comments
GP-1	3:28	0.00	0.0	14.8	No Comments
GP-2	3:16	0.10	0.0	17.9	No Comments
GP-3	2:48	0.04	0.0	10.3	No Comments
GP-4	2:53	0.00	0.0	0.0	Could not get cap off for water level
GP-5	3:01	0.01	0.0	10.4	No Comments
GP-6	3:07	0.02	0.0	8.6	No Comments

Date Performed: 12/11/2015

By: TOM MILLER



## **APPENDIX L.**

### **MONITORING WELL INTEGRITY REPORTS**

# MONITORING WELL INTEGRITY REPORT

(✓) YES

(X) NO

(NA) NOT APPLICABLE

Date: 5/4/2015

Facility Name: Powell Road Landfill

Inspected by: Abraham/C. Gordon

	Monitoring Well									
	MW02AR	MW02B	MW04AR	MW04BRR	MW05AR	MW05BR	MW07AR	MW12A	MW12B	MW13B
<u>A. Location / Identification</u>										
1. Is well flagged/painted?	X	X	X	X	X	X	X	X	X	X
2. Is well labeled inside / outside?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is well situated away from a low point or point or ponded water?	X	X	X	X	X	X	X	✓	✓	✓
4. Is wellhead area free of waste, stored chemicals, etc.?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is well readily accessible?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. If in vulnerable traffic area, is well surrounded by protective posts?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7. Is the well location appropriately shown on facility permit and/or design drawing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. Is well elevation information correct?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>B. Surface Seal</u>										
1. Is there a concrete surface seal in good conditions (i.e., no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is the seal snug against the casing and ground surface?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the seal sloped away from the wellhead?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>C. External Casing</u>										
1. Does well have external casing in good condition (i.e. no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is well locked?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is lock in good condition (i.e. no severe rust)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Does cap and lock effectively prevent tampering?	✓	✓	✓	✓	✓	✓	✓	✓	✓	X
5. Is casing/annulus in good condition and free of water/live animals/debris?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. Do above-ground wells have weep holes at the base of protective casing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>D. Internal Casing</u>										
1. Is internal casing at least 1 foot above ground?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is casing tight horizontally/vertically/rotationally?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the cap snugly fitting/in good condition/made of suitable materials?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Is sampling equipment in good condition (tubing, etc.)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing free of live animals/debris/kinks or bends?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Comments: Items marked with an "X" (No) are explained on the attached sheet.

# MONITORING WELL INTEGRITY REPORT

(✓) YES

(X) NO

(NA) NOT APPLICABLE

Date: 5/4/2015

Facility Name: Powell Road Landfill

Inspected by: A. Graham / C. Gordon

	Monitoring Well									
	MW13C	MW14B	MW15B	MW15C	MW16A	MW16B	MW17A	MW17B	MW18A	MW18B
<b>A. Location / Identification</b>										
1. Is well flagged/painted?	X	X	X	X	X	X	X	X	X	X
2. Is well labeled inside / outside?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is well situated away from a low point or point or ponded water?	✓	✓	✓	✓	X	X	X	X	X	X
4. Is wellhead area free of waste, stored chemicals, etc.?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is well readily accessible?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. If in vulnerable traffic area, is well surrounded by protective posts?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7. Is the well location appropriately shown on facility permit and/or design drawing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. Is well elevation information correct?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>B. Surface Seal</b>										
1. Is there a concrete surface seal in good conditions (i.e., no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is the seal snug against the casing and ground surface?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the seal sloped away from the wellhead?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>C. External Casing</b>										
1. Does well have external casing in good condition (i.e. no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is well locked?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is lock in good condition (i.e. no severe rust)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Does cap and lock effectively prevent tampering?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing/annulus in good condition and free of water/live animals/debris?	X	X	X	X	✓	✓	✓	✓	✓	✓
6. Do above-ground wells have weep holes at the base of protective casing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>D. Internal Casing</b>										
1. Is internal casing at least 1 foot above ground?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is casing tight horizontally/vertically/rotationally?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the cap snugly fitting/in good condition/made of suitable materials?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Is sampling equipment in good condition (tubing, etc.)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing free of live animals/debris/kinks or bends?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Comments: Items marked with an "X" (No) are explained on the attached sheet.

The following text provides explanations for the items marked "no" on the Monitoring Well Integrity Report for May 4, 2015.

Item A.        Location / Identification

1.        Is well flagged / painted?

Most of the monitoring wells at the Powell Road Landfill (PRL) are constructed with silver or gold anodized aluminum guard pipes. These guard pipes are highly visible and do not require paint. Monitoring wells MW13B, MW13C, MW14B, MW15B, and MW15C are located off of the PRL property, south of the Great Miami River. These wells are equipped with 3/8-inch thick steel guard pipes over the anodized aluminum guard pipes. These secondary guard pipes were put on to protect the wells from vandalism (primarily from gun shots). These secondary guard pipes are not painted or flagged so as not to call attention to the wells.

3.        Is well situated away from a low point or point of ponded water?

Monitoring wells MW02AR, MW02B, MW04AR, MW04BRR, MW05AR, MW05BR, MW07AR, MW16A, MW16B, MW17A, MW17B, MW18A, and MW18B are located along the southern edge of the landfill area at the PRL; north of the Great Miami River. This area is floodplain and is prone to flooding. Standing water is common in places after flooding or heavy rain. All of these monitoring wells are equipped with surface seals and flood protective well caps on the two inch well casings to prevent surface water from entering the wells.

Item C.        External Casing

5.        Is casing / annulus in good condition and free of water / live animals/ debris.

Monitoring wells MW13B, MW13C, MW14B, MW15B, and MW15C are equipped with secondary guard pipes as explained previously in Item A.1. Insects (wasps, spiders, ants, beetles) are commonly found within these secondary guard pipes.

# MONITORING WELL INTEGRITY REPORT

(✓) YES

(X) NO

(NA) NOT APPLICABLE

Date: 11/3/15

Facility Name: Powell Road Landfill

Inspected by: C. Gordon, A. Graham, Z. Dobson

	Monitoring Well									
	MW02AR	MW02B	MW04AR	MW04BRR	MW05AR	MW05BR	MW07AR	MW12A	MW12B	MW13B
<u>A. Location / Identification</u>										
1. Is well flagged/painted?	X	X	X	X	X	X	X	X	X	X
2. Is well labeled inside / outside?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is well situated away from a low point or point of ponded water?	X	X	X	X	X	X	X	✓	✓	✓
4. Is wellhead area free of waste, stored chemicals, etc.?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is well readily accessible?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. If in vulnerable traffic area, is well surrounded by protective posts?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7. Is the well location appropriately shown on facility permit and/or design drawing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. Is well elevation information correct?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>B. Surface Seal</u>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1. Is there a concrete surface seal in good conditions (i.e., no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is the seal snug against the casing and ground surface?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the seal sloped away from the wellhead?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>C. External Casing</u>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1. Does well have external casing in good condition (i.e. no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is well locked?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is lock in good condition (i.e. no severe rust)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Does cap and lock effectively prevent tampering?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing/annulus in good condition and free of water/live animals/debris?	✓	✓	✓	✓	✓	✓	✓	✓	✓	X
6. Do above-ground wells have weep holes at the base of protective casing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>D. Internal Casing</u>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1. Is internal casing at least 1 foot above ground?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is casing tight horizontally/vertically/rotationally?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the cap snugly fitting/in good condition/made of suitable materials?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Is sampling equipment in good condition (tubing, etc.)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing free of live animals/debris/kinks or bends?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Comments: Items marked with an "X" (No) are explained on the attached sheet.

# MONITORING WELL INTEGRITY REPORT

(✓) YES

(X) NO

(NA) NOT APPLICABLE

Date: 11/3/15

Facility Name: Powell Road Landfill

Inspected by: C. Gordon, A. Graham, Z. Dobson

	Monitoring Well									
	MW13C	MW14B	MW15B	MW15C	MW16A	MW16B	MW17A	MW17B	MW18A	MW18B
<u>A. Location / Identification</u>										
1. Is well flagged/painted?	X	X	X	X	X	X	X	X	X	X
2. Is well labeled inside / outside?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is well situated away from a low point or point or ponded water?	✓	✓	✓	✓	X	X	X	X	X	X
4. Is wellhead area free of waste, stored chemicals, etc.?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is well readily accessible?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. If in vulnerable traffic area, is well surrounded by protective posts?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7. Is the well location appropriately shown on facility permit and/or design drawing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. Is well elevation information correct?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>B. Surface Seal</u>										
1. Is there a concrete surface seal in good conditions (i.e., no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is the seal snug against the casing and ground surface?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the seal sloped away from the wellhead?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>C. External Casing</u>										
1. Does well have external casing in good condition (i.e. no cracks)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is well locked?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is lock in good condition (i.e. no severe rust)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Does cap and lock effectively prevent tampering?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing/annulus in good condition and free of water/live animals/debris?	X	X	X	X	✓	✓	✓	✓	✓	✓
6. Do above-ground wells have weep holes at the base of protective casing?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>D. Internal Casing</u>										
1. Is internal casing at least 1 foot above ground?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Is casing tight horizontally/vertically/rotationally?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Is the cap snugly fitting/in good condition/made of suitable materials?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Is sampling equipment in good condition (tubing, etc.)?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Is casing free of live animals/debris/kinks or bends?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Comments: Items marked with an "X" (No) are explained on the attached sheet.

The following text provides explanations for the items marked "No" on the Monitoring Well Integrity Report for November 3, 2015.

Item A.        Location / Identification

1.        Is well flagged / painted?

Most of the monitoring wells at the Powell Road Landfill (PRL) are constructed with silver or gold anodized aluminum guard pipes. These guard pipes are highly visible and do not require paint. Monitoring wells MW13B, MW13C, MW14B, MW15B, and MW15C are located off of the PRL property, south of the Great Miami River. These wells are equipped with 3/8-inch thick steel guard pipes over the anodized aluminum guard pipes. These secondary guard pipes were put on to protect the wells from vandalism (primarily from gun shots). These secondary guard pipes are not painted or flagged so as not to call attention to the wells.

3.        Is well situated away from a low point or point of ponded water?

Monitoring wells MW02AR, MW02B, MW04AR, MW04BRR, MW05AR, MW05BR, MW07AR, MW16A, MW16B, MW17A, MW17B, MW18A, and MW18B are located along the southern edge of the landfill area at the PRL; north of the Great Miami River. This area is floodplain and is prone to flooding. Standing water is common in places after flooding or heavy rain. All of these monitoring wells are equipped with surface seals and flood protective well caps on the two inch well casings to prevent surface water from entering the wells.

Item C.        External Casing

5.        Is casing / annulus in good condition and free of water / live animals/ debris.

Monitoring wells MW13B, MW13C, MW14B, MW15B, and MW15C are equipped with secondary guard pipes as explained previously in Item A.1. Insects (wasps, spiders, ants, beetles) are commonly found within these secondary guard pipes.

**APPENDIX M.**

**GROUNDWATER QUALITY DATA SUMMARIES**

**(On CD)**



**TABLE M-1.**  
**SUMMARY OF VOCs AND SVOCs IN WELLS WITH DETECTIONS**  
**POWELL ROAD LANDFILL**  
**HUBER HEIGHTS, OHIO**  
**(concentrations in ug/L)**

	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200	5	5	10,000	
	10 <sup>-4</sup> Risk <sup>1</sup>		4					25,000						67 <sup>6</sup>
	ARARS <sup>2</sup>		2					5				5		
ONSITE Shallow Zone	MW02A	12/88	-	-	-	-	-	-	-	-	-	-	-	-
		4/89	-	-	-	-	-	3 J	-	-	3 J	-	-	-
		1-2/91	-	-	-	-	7	6	-	-	-	-	-	-
		3/93	-	-	-	-	-	-	-	-	-	-	-	-
		2/95	-	-	-	-	-	-	-	-	-	-	-	-
		5/95	[4J]	-	4J	-	-	6J	-	-	-	-	-	-
		8/95	[7J (7J)]	-	-	-	-	5J (5J)	-	-	-	-	-	-
		12/95	0.8J	-	-	-	-	2.2	-	-	-	-	-	-
		5/96	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
		11/96	0.58J	-	-	-	-	5.4	-	-	-	-	-	-
		5/97	[3.6(3.9)]	-(-)	-(-)	-(-)	-(-)	2.6(2.6)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
		11/97	-	-	-	-	-	3.5	-	-	-	-	-	-
		9/98	0.86J	-	-	0.66J	-	2.1	-	-	-	-	-	-
		5/99	-	-	-	0.46	-	0.22	-	-	-	-	-	-
	MW02AR	5/00	-	-	-	-	-	-	-	-	-	-	-	-
		8/00	-	-	-	-	-	-	-	-	-	-	-	-
		11/00	-	-	-	-	-	-	-	-	-	-	-	-
		2/01	-	-	-	-	-	-	-	-	-	-	-	-
		5/01	-	-	-	-	-	-	-	-	-	-	-	-
		8/01	-	-	-	-	-	-	-	-	-	-	-	-
		11/01	-	-	-	-	-	-	-	-	-	-	-	-
		2/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/02	-	-	-	-	-	-	-	-	-	-	-	-
		8/02	-	-	-	-	-	-	-	-	-	-	-	-
		11/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/03	-	-	-	-	-	-	-	-	-	-	-	-
		11/03	-	-	-	-	-	-	-	-	-	-	-	-
		5/04	-	-	-	-	-	-	-	-	-	-	-	-
		11/04	-	-	-	-	-	-	-	-	-	-	-	-
		5/05	-	-	-	-	-	-	-	-	-	-	-	-
		11/05	-	-	-	-	-	-	-	-	-	-	-	-
		5/06	-	-	-	-	-	-	-	-	-	-	-	-
		11/06	-	-	-	-	-	-	-	-	-	-	-	-
		05/07	-	-	-	-	-	-	-	-	-	-	-	-
		11/07	-	-	-	-	-	-	-	-	-	-	-	-
		5/08	-	-	-	-	-	-	-	-	-	-	-	-
		11/08	-	-	-	-	-	-	-	-	-	-	-	-
		5/09	-	-	-	-	-	-	-	-	-	-	-	-
		11/09	-	-	-	-	-	-	-	-	-	-	-	-
		5/10	-	-	-	-	-	-	-	-	-	-	-	-
		11/10	-	-	-	-	-	-	-	-	-	-	-	-
		5/11	-	-	-	-	-	-	-	-	-	-	-	-
		10/11	-	-	-	-	-	-	-	-	-	-	-	-
		5/12	-	-	-	-	-	-	-	-	-	-	-	-
		11/12	-	-	-	-	-	-	-	-	-	-	-	-
		5/13	-	-	-	-	-	-	-	-	-	-	-	-
		11/13	-	-	-	-	-	-	-	-	-	-	-	-
		5/14	-	-	-	-	-	-	-	-	-	-	-	-
		11/14	-	-	-	-	-	-	-	-	-	-	-	-
		5/15	-	-	-	-	-	-	-	-	-	-	-	-
		11/15	-	-	-	-	-	-	-	-	-	-	-	-
	MW03A	12/88	-	-	2 J	-	-	-	-	-	-	-	-	-
		4/89	[28]	-	8 J	1 J	3 J	48	-	-	-	3 J	-	-
		1-2/91	-	12(12)	4 J (4 J)	1 (1 J)	-	-	-	-	1 J	-	1 J	-
		3/93	-	-	-	-	-	-	-	-	-	-	-	-
		2/95	-	-	-	-	-	-	-	-	-	-	-	-
		5/95	-	-	-	-	-	-	-	-	-	-	-	-
		8/95	-	-	-	-	-	-	-	-	-	-	-	-
		12/95	-	-	0.8J	1.4	-	-	-	-	-	-	-	-
		5/96	-	-	0.9J	1J	-	-	-	-	-	-	-	-
		11/96	1.2	-	-	1.1	-	2.9	-	-	-	-	-	-

J = estimated value

( ) duplicate analysis

1,2-DCE (total) was detected as cis-1,2-DCE during 3/93, 5/97, and 11/97 events

J values for Methylene Chloride, carbon disulfide, and acetone not listed

<sup>1</sup> Risk-level cleanup levels from Powell Road Landfill ROD, Table 21

<sup>2</sup> Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

<sup>3</sup> Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

<sup>4</sup> MW16A resampling because of inconsistent results in 5/96. 5/96 results for Vinyl Chloride and 1,2-DCE are suspect.

<sup>6</sup> 10<sup>-4</sup> Risk Level from USEPA Regional Screening Level (RSL) Tapwater

Supporting Table November 2013

- = no detections

Monitoring wells and residential wells not listed had no detections of VOCs

MCL for cis-1,2-DCE is 70; for trans-1,2-DCE is 100

[J] = indicates values above MCL

**TABLE M-1.**  
**SUMMARY OF VOCs AND SVOCs IN WELLS WITH DETECTIONS**  
**POWELL ROAD LANDFILL**  
**HUBER HEIGHTS, OHIO**  
**(concentrations in ug/L)**

	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200	5	5	10,000	
	10 <sup>-4</sup> Risk <sup>1</sup>		4					25,000						67 <sup>6</sup>
	ARARS <sup>2</sup>		2					5				5		
ONSITE Shallow Zone	MW04A	12/88	[6J]	-	98	3 J	7	1 J	-	-	-	4 J	-	-
		4/89	-	-	-	3 J	3 J	-	-	-	-	3 J	-	-
		1-2/91	-	-	27	6	8	1 J	-	-	-	1 J	-	-
		3/93	1.4 (1.3)	-	35 (31)	4.7 (4.3)	4.9 (3.8)	1.7 (1.4)	-	-	-	-	-	-
		2/95	-	-	11	6 J	2 J	-	-	-	-	-	-	-
		5/95	-	-	6J	4J	2J	-	-	-	-	-	-	-
		8/95	-	-	14	4J	-	-	-	-	-	-	-	-
		12/95	-	-	16	5.6	1	0.6J	-	-	-	-	-	-
		5/96	-	-	9	6	0.8J	-	-	-	-	0.6J	-	-
		11/96	-	-	0.73J	5.2	-	-	-	-	-	-	-	-
		5/97	-	-	4.8	5.8	-	-	-	-	-	-	-	-
		11/97	-	-	1.1J	5.5J	-	-	-	-	-	-	-	-
		9/98	-	-	3.5	7.2	-	-	-	-	-	-	-	-
		5/99	-(-)	-	16(15)	5.3(5.2)	-(-)	0.25(0.23)	-(-)	-(-)	-(-)	0.34(0.33)	-(-)	-
	MW04AR	5/00	-	-	-	4.5	-	-	-	-	-	-	-	-
		8/00	-	-	9.5	4.4	-	-	-	-	-	-	-	-
		11/00	-(-)	-(-)	16(18)	4.8 (4.8)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-
		2/01	-	-	-	2.6	-	-	-	-	-	-	-	-
		5/01	-(-)	-(-)	8.5(8.6)	3.6(3.8)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	61(43)
		8/01	-(-)	-(-)	50(49)	3.9(4.3)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	64(74)
		11/01	-	-	13	4.2	-	-	-	-	-	-	-	110
		2/02	-	-	6.8	3.4	-	-	-	-	-	-	-	41
		5/02	-(-)	-(-)	-(-)	3.5(3.7)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	54(49)
		8/02	-	-	-	5.6	-	-	-	-	-	-	-	60
		11/02	-	-	-	5.5	-	-	-	-	-	-	-	110
		5/03	1.0	-	-	2.8	-	-	-	-	-	-	-	40
		11/03	-	-	-	3.7	-	-	-	-	-	-	-	97
		5/04	-	-	-	3.6	-	-	-	-	-	-	-	80
		11/04	-(-)	-(-)	-(-)	5.0(5.1)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	110(110)
		5/05	-	-	-	-	-	-	-	-	-	-	-	53
		11/05	-(-)	-(-)	-(-)	2.9(2.9)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	53(50)
		5/06	-(-)	-(-)	-(-)	3.4(3.2)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	72(76)
		11/06	-(-)	-(-)	-(-)	2.7(2.5)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	50(48)
		05/07	-	-	-	2.8	-	-	-	-	-	-	-	51
		11/07	-(-)	-(-)	-(-)	4.6(4.9)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	68(65)
		5/08	-	-	-	2.3	-	-	-	-	-	-	-	49
		11/08	-(-)	-(-)	-(-)	4.1(4.3)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	74(72)
		5/09	-	-	-	2.3(2.3)	-	-	-	-	-	-	-	20(23J)
		11/09	-(-)	-(-)	-(-)	2.2(2.2)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
		5/10	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	11(13)
		11/10	-	-	-	3.9(3.7)	-	-	-	-	-	-	-	17(16)
		5/11	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
		10/11	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	17(12)
		5/12	-	-	-	2.9	-	-	-	-	-	-	-	29
		11/12	-	-	-	2.7(2.8)	-	-	-	-	-	-	-	21
		5/13	-(-)	-(-)	-(-)	-(-)	1.3(1.3)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	28(31)
		11/13	-(-)	-(-)	-(-)	2.0(2.0)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	12(11)
		5/14	-	-	-	2.5	-	-	-	-	-	-	-	40
		11/14	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)
		5/15	-	-	-	2.0	-	-	-	-	-	-	-	54
		11/15	-(-)	-(-)	-(-)	3.0(3.1J)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	38(33)
	MW05A	12/88	-	-	-	-	-	-	-	-	-	-	-	-
		4/89	[16]	-	-	-	-	-	-	-	-	-	-	-
		1-2/91	-	-	-	-	-	-	-	-	-	-	-	-
		3/93	-	-	-	-	-	-	-	-	-	-	-	-
		2/95	-	-	-	-	-	-	-	-	-	-	-	-
		5/95	-	-	-	-	-	-	-	-	-	-	-	-
		8/95	-	-	-	-	-	-	-	-	-	-	-	-
		12/95	-	-	0.6J	-	-	-	-	-	-	-	-	-
		5/96	-	-	1J	-	-	-	-	-	-	-	-	-
		11/96	-	-	-	-	-	-	-	-	-	-	-	-
		5/97	-	-	-	-	-	-	-	-	-	-	-	-
		11/97	-	-	-	-	7.2J	-	-	-	-	-	-	-
		9/98	-	-	-	-	-	-	-	-	-	-	-	-
		5/99	-	-	0.87	-	-	-	-	-	-	-	-	-

J = estimated value

( ) duplicate analysis

1,2-DCE (total) was detected as cis-1,2-DCE during 3/93, 5/97, and 11/97 events

J values for Methylene Chloride, carbon disulfide, and acetone not listed

<sup>1</sup> Risk-level cleanup levels from Powell Road Landfill ROD, Table 21

<sup>2</sup> Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

<sup>3</sup> Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping, third is post pumping. J = indicates values above MCL

<sup>4</sup> MW16A resampling because of inconsistent results in 5/96. 5/96 results for Vinyl Chloride and 1,2-DCE are suspect.

<sup>5</sup> Result reported as <10ug/l due to dilution, estimated result is 4.6 ug/l

<sup>6</sup> 10-4 Risk Level from USEPA Regional Screening Level (RSL) Tapwater

Supporting Table November 2013

- = no detections

Monitoring wells and residential wells not listed had no detections of VOCs

MCL for cis-1,2-DCE is 70; for trans-1,2-DCE is 100

MCL for cis-1,2-DCE is 70; for trans-1,2-DCE is 100

**TABLE M-1.**  
**SUMMARY OF VOCS AND SVOCs IN WELLS WITH DETECTIONS**  
**POWELL ROAD LANDFILL**  
**HUBER HEIGHTS, OHIO**  
**(concentrations in ug/L)**

	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200	5	5	10,000	
	10 <sup>-4</sup> Risk <sup>1</sup>		4					25,000						67 <sup>6</sup>
	ARARS <sup>2</sup>		2					5				5		
ONSITE Shallow Zone	MW05AR	5/00	-	-	-	-	-	-	-	-	-	-	-	-
		8/00	-	-	-	-	-	-	-	-	-	-	-	-
		11/00	-	-	-	-	-	-	-	-	-	-	-	-
		2/01	-	-	-	-	-	-	-	-	-	-	-	-
		5/01	-	-	-	-	-	-	-	-	-	-	-	-
		8/01	-	-	-	-	-	-	-	-	-	-	-	-
		11/01	-	-	-	-	-	-	-	-	-	-	-	-
		2/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/02	-	-	-	-	-	-	-	-	-	-	-	-
		8/02	-	-	-	-	-	-	-	-	-	-	-	-
		11/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/03	-	-	-	-	-	-	-	-	-	-	-	-
		11/03	-	-	-	-	-	-	-	-	-	-	-	-
		5/04	-	-	-	-	-	-	-	-	-	-	-	-
		11/04	-	-	-	-	-	-	-	-	-	-	-	-
		5/05	-	-	-	-	-	-	-	-	-	-	-	-
		11/05	-	-	-	-	-	-	-	-	-	-	-	-
		5/06	-	-	-	-	-	-	-	-	-	-	-	-
		11/06	-	-	-	-	-	-	-	-	-	-	-	-
		5/07	-	-	-	-	-	-	-	-	-	-	-	-
		11/07	-	-	-	-	-	-	-	-	-	-	-	-
		5/08	-	-	-	-	-	-	-	-	-	-	-	-
		11/08	-	-	-	-	-	-	-	-	-	-	-	-
		5/09	-	-	-	-	-	-	-	-	-	-	-	-
		11/09	-	-	-	-	-	-	-	-	-	-	-	-
		5/10	-	-	-	-	-	-	-	-	-	-	-	-
		11/10	-	-	-	-	-	-	-	-	-	-	-	-
		5/11	-	-	-	-	-	-	-	-	-	-	-	-
		10/11	-	-	-	-	-	-	-	-	-	-	-	-
		5/12	-	-	-	-	-	-	-	-	-	-	-	-
		11/12	-	-	-	-	-	-	-	-	-	-	-	-
		5/13	-	-	-	-	-	-	-	-	-	-	-	-
		11/13	-	-	-	-	-	-	-	-	-	-	-	-
		5/14	-	-	-	-	-	-	-	-	-	-	-	-
		11/14	-	-	-	-	-	-	-	-	-	-	-	-
		5/15	-	-	-	-	-	-	-	-	-	-	-	-
		11/15	-	-	-	-	-	-	-	-	-	-	-	-
	MW07A	12/88	[12 (16)]	-	23 (31)	-	28 (29)	[110 (120)]	-	48 (49)	-	2 J (2 J)	-	-
		4/89	-	-	-	-	-	4 J (-)	-	10 (7)	-	-	-	-
		1-2/91	-	-	-	-	-	-	-	-	-	-	-	-
		3/93	-	-	-	-	-	-	-	-	-	-	-	-
		2/95	-	-	-	-	-	-	-	-	-	-	-	-
		5/95	-	-	-	-	-	-	-	-	-	-	-	-
		8/95	-	-	-	-	-	-	-	-	-	-	-	-
		12/95	-	-	-	-	-	-	0.6J	-	-	-	-	-
	MW16A	1-2/91	-	-	6 J	-	-	1 J	-	-	-	-	-	-
		3/93	-	-	8.7	-	1.1	-	-	-	-	-	-	-
		2/95	-	-	-	-	-	-	-	-	-	-	-	-
		5/95	-	-	-	-	-	-	-	-	-	-	-	-
		6/20/95 <sup>3</sup>	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)	5J 4J (5J)	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)
		8/95	-	-	-	-	-	-	-	-	-	-	-	-
		12/95	-	-	4.2 (4.1)	0.9J (0.9J)	0.5J (0.5J)	-	-	(0.5J)	-	-	-	-
		5/96	[20J]	-	4J	1J	1J	33J	-	-	-	-	-	-
		8/96 <sup>4</sup>	-	-	6J	1J	0.6J	-	-	-	-	-	-	-
		11/96	- (-)	- (-)	2.3J(2.0)	1.1(0.93J)	-	0.69J(0.64J)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
		5/97	0.73J	-	4.4	0.97J	-	0.72J	-	-	-	-	-	-
		11/97	-	-	1.7	1.0	-	-	-	-	-	-	-	-
		9/98	-	-	1.9J	0.93J	-	-	-	-	-	-	-	-
		5/99	-	-	1.1	1.1	-	-	-	-	-	-	-	-
		5/00	-	-	-	-	-	-	-	-	-	-	-	-
		8/00	-	-	-	-	-	-	-	-	-	-	-	-
		11/00	-	-	-	-	-	-	-	-	-	-	-	-

J = estimated value

( ) duplicate analysis

1,2-DCE (total) was detected as cis-1,2-DCE during 3/93, 5/97, and 11/97 events

J values for Methylene Chloride, carbon disulfide, and acetone not listed

<sup>1</sup> Risk-level cleanup levels from Powell Road Landfill ROD, Table 21

<sup>2</sup> Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

<sup>3</sup> Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

<sup>4</sup> MW16A resampling because of inconsistent results in 5/96. 5/96 results for Vinyl Chloride and 1,2-DCE are suspect.

<sup>6</sup> 10<sup>-4</sup> Risk Level from USEPA Regional Screening Level (RSL) Tapwater  
Supporting Table November 2013

-- = no detections

Monitoring wells and residential wells not listed had no detections of VOCs

MCL for cis-1,2-DCE is 70; for trans-1,2-DCE is 100

[ ] = indicates values above MCL

**TABLE M-1.**  
**SUMMARY OF VOCs AND SVOCs IN WELLS WITH DETECTIONS**  
**POWELL ROAD LANDFILL**  
**HUBER HEIGHTS, OHIO**  
**(concentrations in ug/L)**

	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200	5	5	10,000	
	10 <sup>-4</sup> Risk <sup>1</sup>		4					25,000						67 <sup>6</sup>
	ARARS <sup>2</sup>		2					5				5		
ONSITE Shallow Zone	MW-16A (conf'd)	2/01	-	-	-	-	1.4	-	-	-	-	-	-	-
		5/01	-	-	-	-	-	-	-	-	-	-	-	-
		8/01	-	-	-	-	-	-	-	-	-	-	-	-
		11/01	-	-	-	-	-	-	-	-	-	-	-	10
		2/02	1.0(1.2)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	71
		5/02	-	-	-	-	-	-	-	-	-	-	-	12
		8/02	-	-	-	-	-	-	-	-	-	-	-	81
		11/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/03	[2.1](1.8)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
		11/03	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	17(17)
		5/04	-	-	-	-	-	-	-	-	-	-	-	21
		11/04	-	-	-	-	-	-	-	-	-	-	-	10
		5/05	-	-	-	-	-	-	-	-	-	-	-	10
		11/05	-	-	-	-	-	-	-	-	-	-	-	13
		5/06	-	-	-	-	-	-	-	-	-	-	-	11
		11/06	-	-	-	-	-	-	-	-	-	-	-	-
		05/07	1.5	-	-	-	-	-	-	-	-	-	-	22
		11/07	-	-	-	-	-	-	-	-	-	-	-	-
		5/08	-	-	-	-	-	-	-	-	-	-	-	16
		11/08	-	-	-	-	-	-	-	-	-	-	-	10
		5/09	-	-	-	-	-	-	-	-	-	-	-	-
		11/09	-	-	-	-	-	-	-	-	-	-	-	-
		5/10	-	-	-	-	-	-	-	-	-	-	-	-
		11/10	-	-	-	-	-	-	-	-	-	-	-	-
		5/11	-	-	-	-	-	-	-	-	-	-	-	-
		10/11	-	-	-	-	-	-	-	-	-	-	-	13
		5/12	-	-	-	-	-	-	-	-	-	-	-	-
		11/12	1.2	-	-	-	-	-	-	-	-	-	-	-
		5/13	-	-	-	-	-	-	-	-	-	-	-	-
		11/13	-	-	-	-	-	-	-	-	-	-	-	10
		5/14	1.0	-	-	-	-	-	-	-	-	-	-	23
		11/14	-	-	-	-	-	-	-	-	-	-	-	-
		5/15	-	-	-	-	-	-	-	-	-	-	-	-
		11/15	-	-	-	-	-	-	-	-	-	-	-	10
	MW17A	5/00	[5.3](15.3)	- (-)	- (-)	- (-)	- (-)	7.0 (7.0)	- (-)	- (-)	- (-)	- (-)	- (-)	-
		6/00	- (-)	-	-	-	-	-	-	-	-	-	-	-
		8/00	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	-
		11/00	1.6	-	-	-	-	-	-	-	-	-	-	-
		2/01	[2.1](1.9)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	-
		5/01	[2.3]	-	-	-	-	-	1.2	-	-	-	-	-
		8/01	[5.4]	-	-	-	-	9.2	-	-	-	-	-	-
		11/01	[5.4] ([5.3])	-	-	-	-	9.9 (9.7)	-	-	-	-	-	41 (43)
		2/02	[4.5]	-	-	-	-	7.3	-	-	-	-	-	16
		5/02	1.6	-	-	-	-	-	-	-	-	-	-	21
		8/02	-	-	-	-	-	-	-	-	-	-	-	19
		11/02	-	-	-	-	-	-	-	-	-	-	-	28
		5/03	-	-	-	-	-	-	-	-	-	-	-	-
		11/03	-	-	-	-	-	-	-	-	-	-	-	49
		5/04	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	38(43)
		11/04	-	-	-	-	-	-	-	-	-	-	-	35
		5/05	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	21(22)
		11/05	-	-	-	-	-	-	-	-	-	-	-	13
		5/06	-	-	-	-	-	-	-	-	-	-	-	21
		11/06	-	-	-	-	-	-	-	-	-	-	-	28
		05/07	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	23(22)
		11/07	-	-	-	-	-	-	-	-	-	-	-	16
		5/08	-	-	-	-	-	-	-	-	-	-	-	15
		11/08	-	-	-	-	-	-	-	-	-	-	-	29
		5/09	-	-	-	-	-	-	-	-	-	-	-	15
		11/09	-	-	-	-	-	-	-	-	-	-	-	43
		5/10	-	-	-	-	-	-	-	-	-	-	-	21
		11/10	-	-	-	-	-	-	-	-	-	-	-	18
		5/11	-	-	-	-	3.4	-	-	-	-	-	-	25
		10/11	-	-	-	-	6.4	-	-	-	-	-	-	48
		5/12	-	-	-	-	1.2	-	-	-	-	-	-	20
		11/12	-	-	-	-	-	-	-	-	-	-	-	26
		5/13	-	-	-	-	-	-	-	-	-	-	-	19
		11/13	-	-	-	-	2.0	-	-	-	-	-	-	58
		5/14	-	-	-	-	-	-	-	-	-	-	-	54
		11/14	-	-	-	-	-	-	-	-	-	-	-	-
		5/15	-	-	-	-	-	-	-	-	-	-	-	28
		11/15	-	-	-	-	-	-	-	-	-	-	-	43
	MW18A	5/00	-	-	-	-	-	-	-	-	-	-	-	-
		6/00	-	-	-	-	-	-	-	-	-	-	-	-
		8/00	-	-	-	-	-	-	-	-	-	-	-	-
		11/00	-	-	-	-	-	-	-	-	-	-	-	-
		2/01	-	-	-	-	-	-	-	-	-	-	-	-
		5/01	-	-	-	-	-	-	-	-	-	-	-	-
		8/01	-	-	-	-	-	-	-	-	-	-	-	-
		11/01	-	-	-	-	-	-	-	-	-	-	-	-
		2/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/02	-	-	-	-	-	-	-	-	-	-	-	-
		8/02	-	-	-	-	-	-	-	-	-	-	-	41
		11/02	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)	- (-)
		5/10	-	-	-	-	-	-	-	-	-	-	-	-
		11/03	-	-	-	-	-	-	-	-	-	-	-	-

<sup>1</sup> J = estimated value

( ) duplicate analysis

1,2-DCE (total) was detected as cis-1,2-DCE during 3/93, 5/97, and 11/97 events

J values for Methylene Chloride, carbon disulfide, and acetone not listed

<sup>2</sup> Risk-level cleanup levels from Powell Road Landfill ROD, Table 21

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Supporting Table November 2013

= no detections

Monitoring wells and residential wells not listed had no detections of VOCs

MCL for cis-1,2-DCE is 70; for trans-1,2-DCE is 100

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**TABLE M-1.**  
**SUMMARY OF VOCs AND SVOCs IN WELLS WITH DETECTIONS**  
**POWELL ROAD LANDFILL**  
**HUBER HEIGHTS, OHIO**  
**(concentrations in ug/L)**

	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200	5	5	10,000	
	10 <sup>-4</sup> Risk <sup>1</sup>		4					25,000						67 <sup>6</sup>
	ARARS <sup>2</sup>		2					5				5		
ONSITE Shallow Zone	MW18A (cont'd)	5/04	-	-	-	-	-	-	-	-	-	-	-	-
		11/04	-	-	-	-	-	-	-	-	-	-	-	-
		5/05	-	-	-	-	-	-	-	-	-	-	-	-
		11/05	-	-	-	-	-	-	-	-	-	-	-	-
		5/06	1	-	-	-	-	-	-	-	-	-	-	-
		6/06	1.3											
		11/06	-	-	-	-	-	-	-	-	-	-	-	-
		05/07	-	-	-	-	-	-	-	-	-	-	-	-
		11/07	-	-	-	-	-	-	-	-	-	-	-	-
		5/08	1.2	-	-	-	-	-	-	-	-	-	-	-
		11/08	1.6	-	-	-	-	-	-	-	-	-	-	10
		5/09	1.3	-	-	-	-	-	-	-	-	-	-	-
		11/09	-	-	-	-	-	-	-	-	-	-	-	22
		5/10	1.1	-	-	-	-	-	-	-	-	-	-	18
		11/10	-	-	-	-	-	-	-	-	-	-	-	15
		5/11	-	-	-	-	-	-	-	-	-	-	-	11
		10/11	-	-	-	-	-	-	-	-	-	-	-	31
		5/12	-	-	-	-	-	-	-	-	-	-	-	-
		11/12	-	-	-	-	-	-	-	-	-	-	-	17
		5/13	-	-	-	-	-	-	-	-	-	-	-	-
		11/13	-	-	-	-	-	-	-	-	-	-	-	35
		5/14	-	-	-	-	-	-	-	-	-	-	-	21
		11/14	-	-	-	-	-	-	-	-	-	-	-	-
		5/15	-	-	-	-	-	-	-	-	-	-	-	22
		11/15	-	-	-	-	-	-	-	-	-	-	-	19
	MW19A	2/02	1.5	-	-	-	-	-	-	-	-	-	-	22
		5/02	-	-	-	-	-	-	-	-	-	-	-	18
		8/02	-	-	-	-	-	-	-	-	-	-	-	24
		11/02	-	-	-	-	-	-	-	-	-	-	-	24
		5/03	-	-	-	-	-	-	-	-	-	-	-	-
		11/03	-	-	-	-	-	-	-	-	-	-	-	28
		5/04	-	-	-	-	-	-	-	-	-	-	-	11
		11/04	-	-	-	-	-	-	-	-	-	-	-	32
		5/05	-	-	-	-	-	-	-	-	-	-	-	26
		11/05	-	-	-	-	-	-	-	-	-	-	-	-
		5/06	-	-	-	-	-	-	-	-	-	-	-	23
		11/06	-	-	-	-	-	-	-	-	-	-	-	22
		05/07	-	-	-	-	-	-	-	-	-	-	-	21
		11/07	-	-	-	-	-	-	-	-	-	-	-	18
		5/08	-	-	-	-	-	-	-	-	-	-	-	13
		11/08	-	-	-	-	-	-	-	-	-	-	-	19
		5/09	-	-	-	-	-	-	-	-	-	-	-	15
		11/09	-	-	-	-	-	-	-	-	-	-	-	15
		5/10	-	-	-	-	-	-	-	-	-	-	-	23
		11/10	-	-	-	-	-	-	-	-	-	-	-	34
	MW20A	5/11	-	-	-	-	1.4	-	-	-	-	-	-	17
		10/11	-	-	-	-	1.7	-	-	-	-	-	-	41
		5/12	-	-	-	-	6.0	-	-	-	-	-	-	26
		11/12	-	-	-	-	8.3	-	-	-	-	-	-	49
		5/13	-	-	-	-	2.0	-	-	-	-	-	-	18
		11/13	-	-	-	-	2.1	-	-	-	-	-	-	42
		5/14	-	-	-	-	2	-	-	-	-	-	-	54
		11/14	-	-	-	-	1.3	-	-	-	-	-	-	38
		5/15	-	-	-	-	-	-	-	-	-	-	-	32
		11/15	-	-	-	-	-	-	-	-	-	-	-	42
		2/02	[3.2]	-	-	-	-	-	-	-	-	-	-	10
		5/02	[4.2]	-	-	-	-	9.4	-	-	-	-	-	11
		8/02	[3.2] [(3.7)]	-	-	-	-	7.6 (8.6)	-	-	-	-	-	13 (15)
		11/02	[3.1]	-	-	-	-	9.0	-	-	-	-	-	18
		5/03	1.1	-	-	-	-	-	-	-	-	-	-	-
		11/03	-	-	-	-	-	-	-	-	-	-	-	12
		5/04	-	-	-	-	-	-	-	-	-	-	-	11
		11/04	1.1	-	-	-	-	-	-	-	-	-	-	23
		5/05	-	-	-	-	-	-	-	-	-	-	-	15
		11/05	-	-	-	-	-	-	-	-	-	-	-	16
		5/06	-	-	-	-	-	-	-	-	-	-	-	87
		11/06	-	-	-	-	-	-	-	-	-	-	-	18
		05/07	-	-	-	-	-	-	-	-	-	-	-	13
		11/07	-	-	-	-	-	-	-	-	-	-	-	91
		5/08	-	-	-	-	-	-	-	-	-	-	-	61
		11/08	-	-	-	-	-	-	-	-	-	-	-	11
		5/09	-	-	-	-	-	-	-	-	-	-	-	-
		11/09	-	-	-	-	-	-	-	-	-	-	-	16
		5/10	-	-	-	-	-	-	-	-	-	-	-	12
		11/10	-	-	-	-	-	-	-	-	-	-	-	-
		5/11	-	-	-	-	-	-	-	-	-	-	-	-

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**POWELL ROAD LANDFILL**  
**HUBER HEIGHTS, OHIO**  
**(concentrations in ug/L)**

	(Concentrations in µg/L)													
	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200	5	5	10,000	
	10 <sup>-4</sup> Risk <sup>1</sup>		4						25,000					67 <sup>6</sup>
ONSITE Shallow Zone	ARARS <sup>2</sup>		2						5			5		
	MW20A (conf'd)	10/11	-	-	-	-	1.3	-	-	-	-	-	-	47
		5/12	-	-	-	-	-	-	-	-	-	-	-	17
		11/12	-	-	-	-	-	-	-	-	-	-	-	22
		5/13	-	-	-	-	-	-	-	-	-	-	-	-
		11/13	-	-	-	-	-	-	-	-	-	-	-	39
		5/14	-	-	-	-	-	-	-	-	-	-	-	44
		11/14	-	-	-	-	-	-	-	-	-	-	-	43
		5/15	-	-	-	-	-	-	-	-	-	-	-	26
	11/15	-	-	-	-	-	-	-	-	-	-	-	25	
ONSITE Primary Aquifer	MW03B	12/88	-	-	-	-	-	-	-	-	-	-	-	
		4/89	-	-	-	-	-	-	-	-	-	-	-	
		1-2/91	-	-	-	-	-	-	-	-	-	-	-	
		3/93	-	-	-	-	-	-	-	-	-	-	-	
	MW04B	12/88	-	-	-	5 J	150	-	-	-	-	-	-	
		4/89	-	-	-	-	120	-	-	-	-	-	-	
		1-2/91	-	-	-	-	42	-	-	-	-	-	-	
	MW04BR	1-2/91	-	-	13 (8 J)	-	41 (130)	-	-	-	-	-	-	-
		3/93	-	-	3.4	-	48.6	-	-	-	-	-	-	-
2/95		-	-	-	-	43	-	-	-	-	-	-	-	
5/95		-	-	-	-	34	-	-	-	-	-	-	-	
7-8/95		-	-	-	-	44	-	-	-	-	-	-	-	
12/95		-	-	-	-	29	-	-	-	-	-	-	-	
5/96		-	-	-	-	44	-	-	-	-	-	-	-	
11/96		-	-	-	-	38J	0.62J	-	-	-	-	-	-	
5/97		-	-	0.58J	-	38	-	-	-	-	-	-	-	
11/97		-	-	-	-	39 (39)	-	-	-	-	-	-	-	
MW04BRR	9/98	-	-	-	-	24	-	-	-	-	-	-	-	
	5/99	-(-)	-	-(-)	-(-)	25(25)	0.22(0.20)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	
	5/00	-	-	-	-	15	-	-	-	-	-	-	-	
	8/00	-	-	-	-	11	-	-	-	-	-	-	-	
	11/00	-	-	-	-	11	-	-	-	-	-	-	-	
	2/01	-	-	-	-	13	-	-	-	-	-	-	-	
	5/01	-	-	-	-	12	-	-	-	-	-	-	-	
	8/01	-	-	-	-	10	-	-	-	-	-	-	-	
	11/01	-	-	-	-	11	-	-	-	-	-	-	-	
	2/02	-	-	-	-	12	-	-	-	-	-	-	-	
	5/02	-	-	-	-	8.5	-	-	-	-	-	-	-	
	8/02	-	-	-	-	10	-	-	-	-	-	-	-	
	11/02	-	-	-	-	7.5	-	-	-	-	-	-	-	
	5/03	-	-	-	-	9.4	-	-	-	-	-	-	-	
	11/03	-	-	-	-	7.4	-	-	-	-	-	-	-	
	5/04	-	-	-	-	6.5	-	-	-	-	-	-	-	
	11/04	-	-	-	-	6.1	-	-	-	-	-	-	-	
	5/05	-	-	-	-	5.8	-	-	-	-	-	-	-	
	11/05	-	-	-	-	5.3	-	-	-	-	-	-	-	
	5/06	-	-	-	-	5.1	-	-	-	-	-	-	-	
	11/06	-	-	-	-	4.4	-	-	-	-	-	-	-	
	05/07	-	-	-	-	4	-	-	-	-	-	-	-	
	11/07	-	-	-	-	4	-	-	-	-	-	-	-	
	5/08	-(-)	-(-)	-(-)	-(-)	3.5(3.5)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	
	11/08	-	-	-	-	3.7	-	-	-	-	-	-	-	
	5/09	-	-	-	-	3.2	-	-	-	-	-	-	-	
	11/09	-	-	-	-	3.9	-	-	-	-	-	-	-	
	5/10	-	-	-	-	3.8	-	-	-	-	-	-	-	
	11/10	-	-	-	-	3.1	-	-	-	-	-	-	-	
	5/11	-	-	-	-	3.2	-	-	-	-	-	-	-	
	10/11	-	-	-	-	3.5	-	-	-	-	-	-	-	
	5/12	-	-	-	-	3.4	-	-	-	-	-	-	-	
	11/12	-	-	-	-	4.3	-	-	-	-	-	-	-	
	5/13	-	-	-	-	3.7	-	-	-	-	-	-	-	
	11/13	-	-	-	-	3.7	-	-	-	-	-	-	-	
	5/14	-	-	-	-	3.7	-	-	-	-	-	-	-	
	11/14	-	-	-	-	3.5	-	-	-	-	-	-	-	
	5/15	-	-	-	-	3.4	-	-	-	-	-	-	-	
	11/15	-	-	-	-	3.3J	-	-	-	-	-	-	-	
MW16B	1-2/91	-	-	-	-	-	-	-	-	-	-	-	-	
	3/93	-	-	-	-	-	-	-	-	-	-	-	-	
	2/95	-	-	-	-	-	-	-	-	-	-	-	-	
	5/95	[3J]	-	-	-	-	-	-	-	-	-	-	-	
	7-8/95	-	-	-	-	-	-	-	-	-	-	-	-	
	12/95	-	-	-	-	-	-	-	-	-	-	-	-	
	5/96	-	-	-	-	-	-	-	-	-	-	-	-	
	11/96	-	-	-	-	-	1.8J	-	-	-	-	-	-	
	5/97	-	-	-	-	-	-	-	-	-	-	-	-	
	11/97	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-(-)	-	
	9/98	-	-	-	-	-	-	-	-	-	-	-	-	
	5/99	-	-	-	-	-	0.4	-	-	-	-	-	-	
	5/00	-	-	-	-	-	-	-	-	-	-	-	-	
	8/00	-	-	-	-	-	-	-	-	-	-	-	-	
	11/00	-	-	-	-	-	-	-	-	-	-	-	-	

J = estimated value

( ) duplicate analysis

1,2-DCE (total) was detected as cis-1,2-DCE during 3/93, 5/97, and 11/97 events

J values for Methylene Chloride, carbon disulfide, and acetone not listed

<sup>1</sup> Risk-level cleanup levels from Powell Road Landfill ROD, Table 21

<sup>2</sup> Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

<sup>3</sup> Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

<sup>4</sup> MW16A resampling because of inconsistent results in 5/96. 5/96 results for Vinyl Chloride and 1,2-DCE are suspect.

<sup>6</sup> 10<sup>-4</sup> Risk Level from USEPA Regional Screening Level (RSL) Tapwater

Supporting Table November 2013

- = no detections

Monitoring wells and residential wells not listed had no detections of VOCs

MCL for cis-1,2-DCE is 70; for trans-1,2-DCE is 100

[J] = indicates values above MCL

**TABLE M-1.**  
**SUMMARY OF VOCs AND SVOCs IN WELLS WITH DETECTIONS**  
**POWELL ROAD LANDFILL**  
**HUBER HEIGHTS, OHIO**  
**(concentrations in ug/L)**

	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200	5	5	10,000	
	10 <sup>-4</sup> Risk <sup>1</sup>		4					25,000						67 <sup>6</sup>
	ARARS <sup>2</sup>		2					5				5		
ONSITE Primary Aquifer	MW-16B (conf'd)	2/01	-	-	-	-	-	-	-	-	-	-	-	-
		5/01	-	-	-	-	-	-	-	-	-	-	-	-
		8/01	-	-	-	-	-	-	-	-	-	-	-	-
		11/01	-	-	-	-	-	-	-	-	-	-	-	-
		2/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/02	-	-	-	-	-	-	-	-	-	-	-	-
		8/02	-	-	-	-	-	-	-	-	-	-	-	-
		11/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/03	-	-	-	-	-	-	-	-	-	-	-	-
		11/03	-	-	-	-	-	-	-	-	-	-	-	-
		5/04	-	-	-	-	-	-	-	-	-	-	-	-
		11/04	-	-	-	-	-	-	-	-	-	-	-	-
		5/05	-	-	-	-	-	-	-	-	-	-	-	-
		11/05	-	-	-	-	-	-	-	-	-	-	-	-
		5/06	-	-	-	-	-	-	-	-	-	-	-	-
		11/06	-	-	-	-	-	-	-	-	-	-	-	-
		05/07	-	-	-	-	-	-	-	-	-	-	-	-
		11/07	-	-	-	-	-	-	-	-	-	-	-	-
		5/08	-	-	-	-	-	-	-	-	-	-	-	-
		11/08	-	-	-	-	-	-	-	-	-	-	-	-
		5/09	-	-	-	-	-	-	-	-	-	-	-	-
		11/09	-	-	-	-	-	-	-	-	-	-	-	-
		5/10	-	-	-	-	-	-	-	-	-	-	-	-
		11/10	-	-	-	-	-	-	-	-	-	-	-	-
		5/11	-	-	-	-	-	-	-	-	-	-	-	-
		10/11	-	-	-	-	-	-	-	-	-	-	-	-
		5/12	-	-	-	-	-	-	-	-	-	-	-	-
		11/12	-	-	-	-	-	-	-	-	-	-	-	-
		5/13	-	-	-	-	-	-	-	-	-	-	-	-
		11/13	-	-	-	-	-	-	-	-	-	-	-	-
		5/14	-	-	-	-	-	-	-	-	-	-	-	-
		11/14	-	-	-	-	-	-	-	-	-	-	-	-
		5/15	-	-	-	-	-	-	-	-	-	-	-	-
		11/15	-	-	-	-	-	-	-	-	-	-	-	-
OFFSITE Primary Aquifer	MW13B Eldorado Plat	4/89	-	-	-	-	-	-	-	-	-	-	-	-
		1-2/91	-	-	-	-	-	5	[8]	-	-	-	-	-
		3/93	-	-	-	-	-	-	-	-	-	-	-	-
		2/95	-	-	-	-	-	-	-	-	-	-	-	-
		5/95	-	-	-	-	-	-	-	-	-	-	-	-
		7-8/95	-	-	-	-	-	-	-	-	-	-	-	-
		12/95	-	-	-	-	-	-	-	0.6J	-	-	-	-
		5/96	-	-	-	-	-	-	-	-	-	-	-	-
		11/96	-	-	-	-	-	-	-	-	-	-	-	-
		5/97	-	-	-	-	-	-	-	-	-	-	0.71J	-
		11/97	-	-	-	-	-	-	-	-	-	-	-	-
		9/98	-	-	-	-	-	-	-	-	-	-	-	-
		5/99	-	-	-	-	-	-	-	-	-	-	-	-
		5/00	-	-	-	-	-	-	-	-	-	-	-	-
		8/00	-	-	-	-	-	-	-	-	-	-	-	-
		11/00	-	-	-	-	-	-	-	-	-	-	-	-
		2/01	-	-	-	-	-	-	-	-	-	-	-	-
		5/01	-	-	-	-	-	-	-	-	-	-	-	-
		8/01	-	-	-	-	-	-	-	-	-	-	-	-
		11/01	-	-	-	-	-	-	-	-	-	-	-	-
		2/02	-	-	-	-	-	-	-	-	-	-	-	-
		5/02	-	-	-	-	-	-	-	-	-	-	-	-
		8/02	-	-	-	-	-	-	-	-	-	-	-	-
		11/02	-	-	-	-	-	-	-	-	-	-	-	-

J = estimated value

( ) duplicate analysis

1,2-DCE (total) was detected as cis-1,2-DCE during 3/93, 5/97, and 11/97 events

J values for Methylene Chloride, carbon disulfide, and acetone not listed

<sup>1</sup> Risk-level cleanup levels from Powell Road Landfill ROD, Table 21

<sup>2</sup> Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

<sup>3</sup> Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

<sup>4</sup> MW16A resampling because of inconsistent results in 5/96. 5/96 results for Vinyl Chloride and 1,2-DCE are suspect.

<sup>6</sup> 10<sup>-4</sup> Risk Level from USEPA Regional Screening Level (RSL) Tapwater  
Supporting Table November 2013

- = no detections

Monitoring wells and residential wells not listed had no detections of VOC's

MCL for cis-1,2-DCE is 70; for trans-1,2-DCE is 100

[ ] = indicates values above MCL

**TABLE M-1.**  
**SUMMARY OF VOCs AND SVOCs IN WELLS WITH DETECTIONS**  
**POWELL ROAD LANDFILL**  
**HUBER HEIGHTS, OHIO**  
**(concentrations in ug/L)**

	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200	5	5	10,000	
	10 <sup>-4</sup> Risk <sup>1</sup>		4					25,000						67 <sup>6</sup>
	ARARS <sup>2</sup>		2					5				5		
OFFSITE Primary Aquifer	MW13B (conf'd)	5/03	-	-	-	-	-	-	-	-	-	-	-	-
		11/03	-	-	-	-	-	-	-	-	-	-	-	-
		5/04	-	-	-	-	-	-	-	-	-	-	-	-
		11/04	-	-	-	-	-	-	-	-	-	-	-	-
		5/05	-	-	-	-	-	-	-	-	-	-	-	-
		11/05	-	-	-	-	-	-	-	-	-	-	-	-
		5/06	-	-	-	-	-	-	-	-	-	-	-	-
		11/06	-	-	-	-	-	-	-	-	-	-	-	-
		05/07	-	-	-	-	-	-	-	-	-	-	-	-
		11/07	-	-	-	-	-	-	-	-	-	-	-	-
		5/08	-	-	-	-	-	-	-	-	-	-	-	-
		11/08	-	-	-	-	-	-	-	-	-	-	-	-
		5/09	-	-	-	-	-	-	-	-	-	-	-	-
		11/09	-	-	-	-	-	-	-	-	-	-	-	-
		5/10	-	-	-	-	-	-	-	-	-	-	-	-
		11/10	-	-	-	-	-	-	-	-	-	-	-	-
		5/11	-	-	-	-	-	-	-	-	-	-	-	-
		10/11	-	-	-	-	-	-	-	-	-	-	-	-
		5/12	-	-	-	-	-	-	-	-	-	-	-	-
		11/12	-	-	-	-	-	-	-	-	-	-	-	-
		5/13	-	-	-	-	-	-	-	-	-	-	-	-
		11/13	-	-	-	-	-	-	-	-	-	-	-	-
		5/14	-	-	-	-	-	-	-	-	-	-	-	-
		11/14	-	-	-	-	-	-	-	-	-	-	-	-
		5/15	-	-	-	-	-	-	-	-	-	-	-	-
		11/15	-	-	-	-	-	-	-	-	-	-	-	-
	MW15B Eldorado Plat	1-2/91	-	-	-	-	-	4 J (-)	[7] (-)	-	-	-	-	-
		3/93	1.4 (1.4)	-	-	-	-	5.0 (5.3)	[5.6 (5.8)]	-	-	-	-	-
		2/95	-	-	-	-	-	-	31	-	-	-	-	-
		5/95	-	-	-	-	-	2J	31	-	-	-	-	-
		7-8/95	-	-	-	-	-	-	41	-	-	-	-	-
		12/95	-	-	-	-	-	1.8	4.5	-	-	-	-	-
		5/96	0.6J	-	-	-	-	3	4	-	-	-	-	-
		11/96	-	-	-	-	-	4	4.2	-	-	-	-	-
		5/97	-	-	-	-	-	2.7	4.3	-	-	-	-	-
		11/97	-	-	-	-	-	2.6J	3.7J	-	-	-	-	-
		9/98	-	-	-	-	-	2.8	3.5	-	-	-	-	-
		5/99	-	-	-	-	-	2.6	3.3	-	-	-	-	-
		5/00	-	-	-	-	-	-	2.1	-	-	-	-	-
		8/00	-	-	-	-	-	-	2.3	-	-	-	-	-
		11/00	-	-	-	-	-	-	2.1J	-	-	-	-	-
		2/01	-	-	-	-	-	-	2.0	-	-	-	-	-
		5/01	-	-	-	-	-	-	1.8	-	-	-	-	-
		8/01	-	-	-	-	-	-	2.0	-	-	-	-	-
		11/01	-	-	-	-	-	-	2.5	-	-	-	-	-
		2/02	-	-	-	-	-	-	1.8	-	-	-	-	-
		5/02	-	-	-	-	-	-	2.1	-	-	-	-	-
		8/02	-	-	-	-	-	-	2.3	-	-	-	-	-
		11/02	-	-	-	-	-	-	1.7	-	-	-	-	-
		5/03	-	-	-	-	-	-	1.3	-	-	-	-	-
		11/03	-	-	-	-	-	-	1.8	-	-	-	-	-
		5/04	-	-	-	-	-	-	1.3	-	-	-	-	-
		11/04	-	-	-	-	-	-	1.5	-	-	-	-	-
		5/05	-	-	-	-	-	-	1.7	-	-	-	-	-
		11/05	-	-	-	-	-	-	1.2	-	-	-	-	-
		5/06	-	-	-	-	-	-	1.7	-	-	-	-	-
		11/06	-	-	-	-	-	-	1.6	-	-	-	-	-
		05/07	-	-	-	-	-	-	1.7	-	-	-	-	-
		11/07	-	-	-	-	-	-	1.4	-	-	-	-	-
		5/08	-	-	-	-	-	-	1.5	-	-	-	-	-
		11/08	-	-	-	-	-	-	1.4	-	-	-	-	-
		5/09	-	-	-	-	-	-	1.2	-	-	-	-	-
		11/09	-	-	-	-	-	-	1.1	-	-	-	-	-
		5/10	-	-	-	-	-	-	1.6	-	-	-	-	-
		11/10	-	-	-	-	-	-	1.3	-	-	-	-	-
		5/11	-	-	-	-	-	-	1.3	-	-	-	-	-
		10/11	-	-	-	-	-	-	1.5	-	-	-	-	-
		5/12	-	-	-	-	-	-	1.3	-	-	-	-	-
		11/12	-	-	-	-	-	-	1.1	-	-	-	-	-
		5/13	-	-	-	-	-	-	1.3	-	-	-	-	-
		11/13	-	-	-	-	-	-	1.5	-	-	-	-	-
		5/14	-	-	-	-	-	-	1.5	-	-	-	-	-
		11/14	-	-	-	-	-	-	1.3	-	-	-	-	-
		5/15	-	-	-	-	-	-	1.1	-	-	-	-	-
		11/15	-	-	-	-	-	-	1.4	-	-	-	-	-

J = estimated value

( ) duplicate analysis

1,2-DCE (total) was detected as cis-1,2-DCE during 3/93, 5/97, and 11/97 events

J values for Methylene Chloride, carbon disulfide, and acetone not listed

<sup>1</sup> Risk-level cleanup levels from Powell Road Landfill ROD, Table 21

<sup>2</sup> Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

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MCL for Cis-1,2-DCE is 70; for trans-1,2-DCE is 100

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**TABLE M-1.**  
**SUMMARY OF VOCS AND SVOCs IN WELLS WITH DETECTIONS**  
**POWELL ROAD LANDFILL**  
**HUBER HEIGHTS, OHIO**  
**(concentrations in ug/L)**

	Wells with Detections	Sampling Date	Vinyl Chloride	Acetone	Chloroethane	Chlorobenzene	1,1 DCA	1,2 DCE (total)	TCE	1,1,1 TCA	Tetrachloroethene	Benzene	Xylenes	1,4-Dioxane
	MCLs		2			100		70;100	5	200	5	5	10,000	
	10 <sup>-4</sup> Risk <sup>6</sup>		4						25,000					67 <sup>6</sup>
	ARARS <sup>2</sup>		2						5			5		
RESIDENTIAL	P862	12/88	-	-	-	-	-	-	-	-	-	-	-	-
	Eldorado	3/93	-	-	-	-	-	0.8 (0.8)	3.0 (2.6)	-	-	-	-	-
	Plat	4/93	-	-	-	-	-	1.0 (1.0)	2.9 (2.9)	-	-	-	-	-
		2/95	-	-	-	-	-	-	-	-	-	-	-	-
		5/95	-	-	-	-	-	-	-	-	-	-	-	-
		7-8/95	-	-	-	-	-	-	-	-	-	-	-	-
		12/95	-	-	-	-	-	-	2	-	-	-	-	-
		5/96	-	-	-	-	-	- (0.5J)	2 (1)	-	-	-	-	-
		11/96	-	-	-	-	1.3 (-)	1.2 (1.1)	2.5 (2.6)	-	-	-	-	-
		5/97	-	-	-	-	-	-	2.6	-	-	-	-	-
		11/97	-	-	-	-	-	1.4	3.2	-	-	-	-	-

*J = estimated value*

*( ) duplicate analysis*

*1,2-DCE (total) was detected as cis-1,2-DCE during 3/93, 5/97, and 11/97 events*

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<sup>3</sup> Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

<sup>4</sup> MW16A resampling because of inconsistent results in 5/96. 5/96 results for Vinyl Chloride and 1,2-DCE are suspect.

<sup>6</sup> 10<sup>-4</sup> Risk Level from USEPA Regional Screening Level (RSL) Tapwater

Supporting Table November 2013

-= no detections

Monitoring wells and residential wells not listed had no detections of VOCs

MCL for Cis-1,2-DCE is 70; for trans-1,2-DCE is 100

[ J ] = indicates values above MCL

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW01A			MW01B				MW02A				
						2/95	5/95	7-8/95	2/95	5/95	7-8/95	11/96	2/95	5/95	7-8/95	7-8/95 Dup.	5/99
Aluminum, total	ug/L		50-200														
Antimony, total	ug/L	6			10/5												
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50					7.8	10.2	14.4			2.7 J	5.0	
Barium, total	ug/L	2000					94.1	108	359.0	365	364		223.0	276	265	256	
Beryllium, total	ug/L	4		2	1*												
Cadmium, total	ug/L	5															
Calcium, total	ug/L					90700	90100	94900	91400	89900	88200		203000	253000	247000	242000	158000
Chromium, total	ug/L	100															
Cobalt, total	ug/L																
Copper, total	ug/L	**	1000														
Iron, total	ug/L		300			203.0			1780	1760 J	1730		3970	5570	3820	3590	4530
Iron, Ferrous	ug/L					--	--	--	--	--	--		--	--	--	--	
Lead, total	ug/L	**															
Magnesium, total	ug/L					36900	37700	36900	39200	38000	36300		30400	39900	38500	37900	22100
Manganese, total	ug/L		50			7.6		18.9	25.5	25.4 J	24.7		1340	1500	1490	1410	519
Mercury, total	ug/L	2			2												
Nickel, total	ug/L																
Potassium, total	ug/L					2240		2530	1530		1370		1830				
Selenium, total	ug/L	50															
Silver, total	ug/L		100														
Sodium, total	ug/L					19400	21100	21500	6890	7220	7140		11600	25000	19000	18200	8010
Strontium	ug/L					--	--	--	--	--	--		--	--	--	--	
Thallium, total	ug/L	2															
Vanadium, total	ug/L																
Zinc, total	ug/L		5000														

Note: Blank spaces represent non-detect values.

-- = Dash represents no analysis.

[ J ] = indicates values above MCL.

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<sup>1</sup> Risk-based cleanup levels from Powell Road Landfill ROD, Table 21.

<sup>2</sup> Chemical specific Applicable or Relevant and Appropriate

Requirements, Powell Road Landfill ROD, Table 22.

<sup>3</sup> Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

<sup>4</sup> MCL for arsenic changed to 10 ug/L effective 2/22/02.

\* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L.

The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW02AR															
						5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05
Aluminum, total	ug/L	6	50-200				--		--		--		--		--						
Antimony, total	ug/L				10/5		--		--		--		--		--				--	--	
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	5.7	14	5.4	2.1	1.2	2.2	1.5	--		1.7	1.5		1.4	--	1.0	--
Barium, total	ug/L	2000				350	--	230	--	170	--	160	--	140	--	120	130	140	130	110	120
Beryllium, total	ug/L	4		2	1*		--		--		--		--		--						
Cadmium, total	ug/L	5					--		--		--		--		--						
Calcium, total	ug/L					231000	218000	199000	108000	186000	188000	180000	182000	180000	175000	161000	209000J	224000	217000	188000	201000
Chromium, total	ug/L	100					--		--		--		--		--						
Cobalt, total	ug/L						--		--		--		--		--				--	--	
Copper, total	ug/L	**	1000				--		--		--		--		--						
Iron, total	ug/L		300			4100	7900	1500	4100	350	1600	900	310	140	1900	420	82J	120J	200	670	50
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	--	30	190		40		60	10
Lead, total	ug/L	**					--		--		--		--		--						
Magnesium, total	ug/L					33800	30300	28800	34000	33100	32200	32400	34600	35800	30200	29400	38600	36800	36100	35400	40100
Manganese, total	ug/L		50			520	--	550	--	330	--	410	--	75	--	360	680	530	510	320	44
Mercury, total	ug/L	2			2		--		--		--		--		--						
Nickel, total	ug/L						--		--		--		--		--						
Potassium, total	ug/L					3400	3300	2500	2400	2000	2000	1700	1600	1600	1800	1800	2700	2000	1700	1900	1800
Selenium, total	ug/L	50					--		--		--		--		--						
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					11900	14200 J	17200	20500	17500	16900	16500	15300	12600	13100	13700	16600	12500	10100	10100	10700
Strontium	ug/L					1200	--	1100J	--	930	--	990J	--	1100	--	950	980	1100J	1200	1100	1100
Thallium, total	ug/L	2					--		--		--		--		--						
Vanadium, total	ug/L						--		--		--		--		--				--	--	
Zinc, total	ug/L		5000				--		--		--		--		--						

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\* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L.

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW02AR (cont'd)														
						11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12
Aluminum, total	ug/L	6	50-200			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	50/10 <sup>4</sup>		4	10/5 50	--	--	2.0	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	2000				110	100	100	97	84	88	82	104	123	131	166	100	120	100	140
Barium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L					194000	203000	164000	164000	140000	151000	153000	170000	171000	189000	189000	155000	169000	174000	173000
Calcium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L	**	1000			220	150	2000	140	140	220		124	371	124	335	210			150
Copper, total	ug/L		300			100		80	--	100	10		10	150		190	60	140		90
Iron, total	ug/L	**				40300	44400	35400	33600J+	30200	31100	31600	37200	39500	40000	44000	28900	35500	35300	39200
Iron, Ferrous	ug/L					47	260	310	100	82	31	85	170	275	201	398	16	190	250	320
Lead, total	ug/L	2	50		2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					2000	2100	1800	1800	1900	1800	2100	2260	2320	2770	2780	2300	2500	2200	2500
Manganese, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, total	ug/L		100			14000	10400	14400	8000	13000	9600	9800	14500	17000	18600	19300	10000	14300	11300	19100J-
Nickel, total	ug/L	2				1100	860	760	960	790	830	950	933	934	800	887	740	870	1200	840
Potassium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					14000	10400	14400	8000	13000	9600	9800	14500	17000	18600	19300	10000	14300	11300	19100J-
Strontium	ug/L	2				1100	860	760	960	790	830	950	933	934	800	887	740	870	1200	840
Thallium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW02AR (cont'd)				
						11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L	6	50-200			--	--	--	--	--
Antimony, total	ug/L	50/10 <sup>4</sup>		4	10/5	1.3				
Arsenic, total	ug/L	2000				140	100	120	160	150
Barium, total	ug/L	4		2	1*	--	--	--	--	--
Beryllium, total	ug/L	5				--	--	--	--	--
Cadmium, total	ug/L					164000	156000	173000	202000	177000
Calcium, total	ug/L	100								
Chromium, total	ug/L					--	--	--	--	--
Cobalt, total	ug/L	**	1000							
Copper, total	ug/L		300				120	96	110	81
Iron, total	ug/L					190	70	110	290	360
Iron, Ferrous	ug/L	**								
Lead, total	ug/L					39100	33400	37800	42400	36700
Magnesium, total	ug/L		50			290	51	360	210	300
Manganese, total	ug/L	2		2						
Mercury, total	ug/L					2300	2200	2800	2600	3200
Nickel, total	ug/L	50								
Potassium, total	ug/L		100			--	--	--	--	--
Selenium, total	ug/L					18800	12900	15700	15400	19500
Silver, total	ug/L					850	670	970	1100	830
Sodium, total	ug/L	2				--	--	--	--	--
Strontium	ug/L									
Thallium, total	ug/L									
Vanadium, total	ug/L		5000							
Zinc, total	ug/L									

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW02B															
						5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05
Aluminum, total	ug/L	6	50-200			700	--	1700	--	160	--	1300	--	160	--	310	120	1600	900	--	--
Antimony, total	ug/L			10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	2.7	2.8	2.8	1.9	1.9	1.8	2.6	1.6	--	--	2.1	1.6	2.1	1.3	1.7	1.3
Barium, total	ug/L	2000				190	--	200	--	160	--	190	--	170	--	170	170	180	200	190	160
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					104000	102000	111000	102000	101000	105000	114000	104000	95500	91200	102000	109000J	102000	106000	103000	90700
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			4300	4900	5300	3900	3800	4000	5300	3800	3600	3200	3600	4100J	3600J	4900	4300	3100
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	2160	2780	2010	1810	2940	1970	2830	2040
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					32000	32600	34900	32200	32100	33500	36300	33000	29900	29300	32800	34600	32100	33200	32200	27400
Manganese, total	ug/L		50			130	--	150	--	120	--	150	--	120	--	130	130	120	140	140	110
Mercury, total	ug/L	2		2		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					2800	3000	2900	2400	2300	2600	2700	2300	2200	2500	2400	2300	2400	3000	2700	2400
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					20900	18800 J	19000	19600	17900	19700	20200	19800	20300	24100	20800	18200	21700	21100	21800	19400
Strontium	ug/L					220	--	210J	--	180	--	190J	--	210	--	200	200	180J	140	210	180
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW02B (cont'd)															
						11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13
Aluminum, total	ug/L		50-200			110	1900	1100	1800	180	800	550	256	1020	344	388	3900	970	290	2900	1100
Antimony, total	ug/L	6			10/5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	1.2	1.4	1.2						1.0				1.0		1.4	1.1
Barium, total	ug/L	2000				180	190	190	180	170	170	170	178	175	168	174	200	190	180	200	190
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					106000	102000	102000	90200	95200	95300	94500	99600	98200	99600	104000	108000	100000	93600	108000	102000
Chromium, total	ug/L	100																			
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300			3700	5500	4200	4400	3400	3900	3600	3520	3990	3500	3730	5600	3900	3300	5800	4600
Iron, Ferrous	ug/L					2230	2870	2470		1150	2400	1590	2990	1260	1200	620	1680	1700	2420	3170	2670
Lead, total	ug/L	**																			
Magnesium, total	ug/L					31400	33900	31600	28000 <sup>3</sup>	28500	29600	29800	31300	31300	30600	32800	33600	32200	30200	34700	33800
Manganese, total	ug/L		50			130	150	130	130	120	130	120	129	126	118	112	150	120	120	140	140
Mercury, total	ug/L	2			2																
Nickel, total	ug/L																				
Potassium, total	ug/L					2400	3000	2800	2900	2400	2500	2500	2360	2460	2290	2220	3300	2500	2100	3000	2500
Selenium, total	ug/L	50																			
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					21000	19800	20900	16900	19000	17000	17500	19700	20000	19900	21800	22400	23500	23500	22700 <sup>4</sup>	24900
Strontium	ug/L					200	170	180	180	200	200	210	195	210	163	172	180	190	200	190	230
Thallium, total	ug/L	2																			
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000																		

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POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW02B (cont'd)				
						11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200			360	660	100	2000	430
Antimony, total	ug/L	6			10/5	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50				1.1	
Barium, total	ug/L	2000				190	170	180	190	190
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--
Calcium, total	ug/L					98100	82100	88600	89100	91900
Chromium, total	ug/L	100								
Cobalt, total	ug/L					--	--	--	--	--
Copper, total	ug/L	**	1000							
Iron, total	ug/L		300			3600	3200	3000	4800	3300
Iron, Ferrous	ug/L					1670	2070	2690	2490	3240
Lead, total	ug/L	**								
Magnesium, total	ug/L					30600	26200	28200	28800	29000
Manganese, total	ug/L		50			120	110	120	130	120
Mercury, total	ug/L	2			2					
Nickel, total	ug/L									
Potassium, total	ug/L					2200	2400	2400	2700	2600
Selenium, total	ug/L	50								
Silver, total	ug/L		100			--	--	--	--	--
Sodium, total	ug/L					31300	24800	26700	23700	26400
Strontium	ug/L					210	190	250	240	240
Thallium, total	ug/L	2								
Vanadium, total	ug/L					--	--	--	--	--
Zinc, total	ug/L		5000							

Note: Blank spaces represent non-detect values.

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[ ] = indicates values above MCL.

J = Estimated value.

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<sup>1</sup> Risk-based cleanup levels from Powell Road Landfill ROD, Table 21.

<sup>2</sup> Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

<sup>3</sup> Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

<sup>4</sup> MCL for arsenic changed to 10 ug/L effective 2/22/02.

\* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L. The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.



**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW03A			MW04A									5/99 Dup.
						2/95	5/95	7-8/95	2/95	5/95	7-8/95	12/95	5/96	11/96	5/97	11/97	9/98	
Aluminum, total	ug/L		50-200									--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5													
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50			2.2	[71]	[57.4]	[84.9]	[91.4]	[84.3]	[70.9]	[82.9]	[64.3]	[89.9]	[78.2]
Barium, total	ug/L	2000				356.0	305	297	588.0	536	614		--	--	--	--	--	--
Beryllium, total	ug/L	4		2	1*								--	--	--	--	--	--
Cadmium, total	ug/L	5											--	--	--	--	--	--
Calcium, total	ug/L					169000	181000	170000	143000	159000	181000		--	--	--	--	--	170000
Chromium, total	ug/L	100											--	--	--	--	--	--
Cobalt, total	ug/L												--	--	--	--	--	--
Copper, total	ug/L	**	1000										--	--	--	--	--	--
Iron, total	ug/L		300			19300	8440	9130	13100	11800	11300		--	--	--	--	--	15900
Iron, Ferrous	ug/L					--	--	--	--	--	--		--	--	--	--	--	15700
Lead, total	ug/L	**											--	--	--	--	--	--
Magnesium, total	ug/L					43300	38500	36000	47000	46200	50100		--	--	--	--	--	43700
Manganese, total	ug/L		50			214.0	190	187	252.0	394	312		--	--	--	--	--	137
Mercury, total	ug/L	2			2								--	--	--	--	--	135
Nickel, total	ug/L												--	--	--	--	--	--
Potassium, total	ug/L					10200	7990	9440	18400	17200	18200		--	--	--	--	--	11400
Selenium, total	ug/L	50											--	--	--	--	--	11300
Silver, total	ug/L		100										--	--	--	--	--	--
Sodium, total	ug/L					47100	36100	40800	43800	45800	44300		--	--	--	--	--	43400
Strontium	ug/L					--	--	--	--	--	--		--	--	--	--	--	43700
Thallium, total	ug/L	2											--	--	--	--	--	--
Vanadium, total	ug/L												--	--	--	--	--	--
Zinc, total	ug/L		5000										--	--	--	--	--	--

Note: Blank spaces represent non-detect values.

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<sup>1</sup> Risk-based cleanup levels from Powell Road Landfill ROD, Table 21.

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<sup>4</sup> MCL for arsenic changed to 10 ug/L effective 2/22/02.

\* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L. The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW04AR															
						5/00	8/00	11/00	11/00 Dup.	2/01	5/01	5/01 Dup.	8/01	8/01 Dup.	11/01	2/02	5/02	5/02 Dup.	8/02	11/02	5/03
Aluminum, total	ug/L	6	50-200		10/5		--			--			--	--		--			--		
Antimony, total	ug/L	50/10 <sup>4</sup>		4	50							44	49	[51]	47	48	[42]	[44]	[47]	[49]	[36]
Arsenic, total	ug/L	2000				[74]	[76]	[98]	[95]	[61]	[50]	530	520	--	--	530	--	410	420	--	640
Barium, total	ug/L	4		2	1*	650	--	680	680	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium, total	ug/L	5								--											
Cadmium, total	ug/L									--											
Calcium, total	ug/L					142000	148000	152000	152000	131000	129000	126000	154000	155000	143000	137000	150000	154000	137000	135000	148000
Chromium, total	ug/L	100								--											
Cobalt, total	ug/L									--											
Copper, total	ug/L	**	1000							--											
Iron, total	ug/L		300			13600	15300	15800	15800	10800	10400	10100	11000	11200	10800	10600	9200	9600	10300	11600	12400
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	--	--	--	10440	--	6160	1480	1770
Lead, total	ug/L	**								--											
Magnesium, total	ug/L					48000	49200	52100	52200	40100	41100	40100	47500	48200	45500	42900	44000	45200	47100	48800	49100
Manganese, total	ug/L		50			150	--	160	160	--	170	160	--	--	190	--	210	220	--	190	110
Mercury, total	ug/L	2			2					--											
Nickel, total	ug/L									--											
Potassium, total	ug/L					22400	24300	23700	23800	14800	20000	19600	27300	27800	22600	20800	20200	20600	30800	29700	15100
Selenium, total	ug/L	50								--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100					--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					87700	100000 J	113000	114000	60600	72600	71400	100000	102000	76500	69400	65500	67600	95100	87900	55400
Strontium	ug/L					1100	--	1300J	1200J	--	1100	1100	--	--	1300J	--	1300	1200	--	1100	850
Thallium, total	ug/L	2								--											
Vanadium, total	ug/L									--											
Zinc, total	ug/L		5000							--											

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<sup>1</sup> Risk-based cleanup levels from Powell Road Landfill ROD, Table 21.

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\* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L. The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW04AR (cont'd)															
						11/03	5/04	11/04	11/04 Dup.	3/05	5/05	11/05	11/05 Dup.	5/06	5/06 Dup.	11/06	11/06 Dup.	5/07	11/07	11/07 Dup.	5/08
Aluminum, total	ug/L	6	50-200		10 <sup>5</sup>		--	--	--		--	--	--	--	--	--	--	--	--		
Antimony, total	ug/L	50/10 <sup>4</sup>		4	50	[59]	[60]	[99]	[90]	[50]	[130]	[48]	[51]	[66]	[59]	[46]	[49]	[38]	[48]	[50]	
Arsenic, total	ug/L	2000				570	350	640	650		470	580	590	420	410	530	530	310	630	640	
Barium, total	ug/L	4		2	1*									--	--	--	--	--	--		
Beryllium, total	ug/L	5												--	--	--	--	--	--		
Cadmium, total	ug/L					156000	182000	130000	129000		187000	167000	171000	154000	154000	156000	155000	149000	124000	125000	
Calcium, total	ug/L	100																		16500	
Chromium, total	ug/L																				
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--		
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300			113000	11700	11400	12300		17000	9300	9500	14300	13600	9000	9300	8300	9700	9800	
Iron, Ferrous	ug/L					2340	2210	3050			1220	2890		2490		2850		4940	2050		
Lead, total	ug/L	**																		21	
Magnesium, total	ug/L					50600	53400	45400	45000		53900	51300	52700	47900	48000	50000	49600	42000	43800	44200	
Manganese, total	ug/L		50			280	370	150	150		320	290	300	250	250	280	280	350	100	100	
Mercury, total	ug/L	2			2																
Nickel, total	ug/L																				
Potassium, total	ug/L					22800	17000	25600	25400		17300	18200	18800	15200	15100	14400	14200	12500	19600	19900	
Selenium, total	ug/L	50																		113	
Silver, total	ug/L		100			--	--	--	--		--	--	--	--	--	--	--	--	--		
Sodium, total	ug/L					76500	54600	87300	86100		51800	57500	59000	55200	55400	50000	50200	45200	65500	66300	
Strontium	ug/L					11000	1300	1200	1200		1200	1300	1300	750	750	1000	980	1000	890	880	
Thallium, total	ug/L	2																		11	
Vanadium, total	ug/L						--	--	--		--	--	--	--	--	--	--	--	--		
Zinc, total	ug/L		5000																		

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The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW04AR (cont'd)															
						11/08	11/08 Dup.	5/09	5/09 Dup.	11/09	11/09 Dup.	5/10	5/10 Dup.	11/10	11/10 Dup.	5/11	5/11 Dup.	10/11	10/11 Dup.	5/12	5/12 Dup.
Aluminum, total	ug/L	6	50-200		10 <sup>5</sup>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Antimony, total	ug/L	50/10 <sup>4</sup>		4	50																
Arsenic, total	ug/L					[42]	[44]	[19.4]	[19.4]	[24.3]	[24.5]	[23.2]	[24.2]	[35.3]	[34.5]	[12.0]J+	[11.0]J+	[17]	[16]	[26]	
Barium, total	ug/L	2000				730	700	493	486	343	352	322	327	610	622	200	210	320	320	430	
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L					143000	136000	160000	15800	167000	171000	136000	137000	136000	136000	114000	116000	150000	148000	140000	
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300			11000	10500	6430	6310	6480	6650	6610	6770	10700	10900	2700	2800	4500	4600	9900	
Iron, Ferrous	ug/L					1290	--	2030	--	1270	--	1660	--	710	--	1610	--	2660	--	5940	
Lead, total	ug/L	**																			
Magnesium, total	ug/L					50400	48300	46500	45900	48900	50300	39000	39400	46600	46600	30200	30400	42200	42300	42900	
Manganese, total	ug/L		50			150	150	203	201	306	314	295	296	136	134	280	280	200	200	200	
Mercury, total	ug/L	2			2																
Nickel, total	ug/L																				
Potassium, total	ug/L					21100	20100	12200	12000	10400	10700	8850	8940	16000	16400	4600	4700	8000	7900	11100	
Selenium, total	ug/L	50							0.6												
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L					75900	72600	31700	31300	20500	20900	30900	31000	50700	50700	14900	15200	42600	42200	61800	
Strontium	ug/L					970	1000	946	951	1030	1040	661	671	926	892	790	790	760	970	970	
Thallium, total	ug/L	2																			
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000																		

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<sup>3</sup> Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

<sup>4</sup> MCL for arsenic changed to 10 ug/L effective 2/22/02.

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The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW04AR (cont'd)											
						11/12	11/12 Dup.	5/13	5/13 Dup.	11/13	11/13 Dup.	5/14	11/14	11/14 Dup.	5/15	11/15	11/15 Dup.
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	[21]	[20]	8.4	8.6	[17]	[17]	[16]	[25]	[24]	[14]	[25]	[24]
Barium, total	ug/L	2000				460	460	390	390	370	370	420	440	430	450	450	440
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					151000	150000	146000	145000	169000	164000	127000	129000	123000	146000	133000	131000
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			7300	7200	4800	4700	5800	5700	7900	9400	8900	7800	9000	8900
Iron, Ferrous	ug/L					6100	--	2320	2450	2260	--	1260	3010	--	5800	8280	--
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					44400	44100	40400	40100	43900	42800	38100	40500	40300	42200	40900	40500
Manganese, total	ug/L		50			160	160	280	280	210	200	180	150	150	180	190	190
Mercury, total	ug/L	2			2	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					11900	11800	8300	8200	8900	8700	10800	13000	12500	9900	12800	12700
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					56500	56200	34000	33600	35800	35200	51000	63700	62400	45700	65100	64800
Strontium	ug/L					970	970	1200	1200	990	1000	680	820	820	860	820	810
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW04BR											
						2/95	5/95	7-8/95	12/95	5/96	11/96	5/97	11/97	11/97 Dup.	9/98	5/99	5/99 Dup.
Aluminum, total	ug/L		50-200						--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5												
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	13.0	17.6	15.8	14.7	15.4	12.6	9.8	10.1	13.6	11.0	11.8	10.4
Barium, total	ug/L	2000				270.0	276	310	--	--	--	--	--	--	--	--	--
Beryllium, total	ug/L	4		2	1*												
Cadmium, total	ug/L	5															
Calcium, total	ug/L					94500	95300	109000								90200	92100
Chromium, total	ug/L	100															
Cobalt, total	ug/L																
Copper, total	ug/L	**	1000														
Iron, total	ug/L		300			1640	1690	1870								1530	1540
Iron, Ferrous	ug/L					--	--	--									
Lead, total	ug/L	**															
Magnesium, total	ug/L					35700	35700	40100								35700	36900
Manganese, total	ug/L		50			40.6	41.7	47.9								36.1	37.6
Mercury, total	ug/L	2			2												
Nickel, total	ug/L																
Potassium, total	ug/L					3930	3810	4450									
Selenium, total	ug/L	50															
Silver, total	ug/L		100														
Sodium, total	ug/L					20700	21700	24100								24500	25400
Strontium	ug/L					--	--	--									
Thallium, total	ug/L	2															
Vanadium, total	ug/L																
Zinc, total	ug/L		5000														

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\* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L. The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW04BRR															
						5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05
Aluminum, total	ug/L		50-200				--		--		--		--		--						120
Antimony, total	ug/L	6			10/5		--		--		--		--		--						--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	10.0	9.6	13.0	14.0	11.0	11.0	9.8	11.0	[11.0]	9.5	10.0	[11.0]	[11.0]	[11.0]	[14.0]	[13.0]
Barium, total	ug/L	2000				260	--	250	--	250	--	260	--	260	--	250	240	260	270	260	240
Beryllium, total	ug/L	4		2	1*		--		--		--		--		--						--
Cadmium, total	ug/L	5					--		--		--		--		--						--
Calcium, total	ug/L					85200	80700	90600	89200	88900	91500	89500	88600	87700	86600	87700	83000J	88900	93400	87100	83900
Chromium, total	ug/L	100					--		--		--		--		--						--
Cobalt, total	ug/L						--		--		--		--		--						--
Copper, total	ug/L	**	1000				--		--		--		--		--	64					--
Iron, total	ug/L		300			1500	1300	1400	1500	1400	1500	1500	1400	1400	1400	1400	1300J	1400J	1500	1400	1300
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	1170	1430	1380	1240	1370	1470	1510	1330
Lead, total	ug/L	**					--		--		--		--		--						--
Magnesium, total	ug/L					33700	31000	35400	35100	34500	35900	35500	35400	35000	35400	35000	32200	34900	36200	33200	31600
Manganese, total	ug/L		50			34	--	35	--	34	--	35	--	34	--	34	32	35	36	33	31
Mercury, total	ug/L	2			2		--		--		--		--		--						--
Nickel, total	ug/L						--		--		--		--		--						--
Potassium, total	ug/L					3100	3100	3000	3000	3100	3200	2700	3000	3100	3000	3000	3000	3300	3400	3200	3000
Selenium, total	ug/L	50					--		--		--		--		--						--
Silver, total	ug/L		100				--		--		--		--		--						--
Sodium, total	ug/L					26000	23400 J	24500	24600	22300	23800	24200	24900	25800	26700	26800	30500	31100	30900	28400	26200
Strontium	ug/L					430	--	520J	--	430	--	440J	--	470	--	470	460	470J	870	510	470
Thallium, total	ug/L	2					--		--		--		--		--						--
Vanadium, total	ug/L						--		--		--		--		--						--
Zinc, total	ug/L		5000				--		--		--		--		--	36					--

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\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW04BRR (cont'd)															
						11/05	5/06	11/06	5/07	11/07	5/08	5/08 DUP	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	[11]	10.0	[11]	10.0	9.8	[11]	[11]	10.0	10.0	[11.1]	[10.8]	[10.3]	10.0	[12]	[11]	[11]
Barium, total	ug/L	2000				260	240	260	240	230	230	230	240	239	268	284	301	270	280	250	260
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					92500	86400	91200	82000	83500	83900	83700	87200	89200	102000	106000	112000	101000	107000	91300	96900
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			1500	1400	1600	1200	1300	1500	1500	1400	1400	1660	1680	1910	1700	1800	1600	1700
Iron, Ferrous	ug/L					1440	1360	1460	1250	1270	1230		1310	1430	840	880	790	1480	660	1670	1620
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					35300	33300	36600	31500 <sup>3</sup>	31400	31500	31200	33400	34100	39800	40800	44500	42500	42300	35800	38500
Manganese, total	ug/L		50			34	33	36	32	32	33	33	32	33.1	36.8	35.7	35.9	35.0	34	31	33
Mercury, total	ug/L	2			2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					3300	3000	2800	3000	2800	2800	2800	3100	2970	3210	3160	3470	3200	3200	2800	3100
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					29600	26400	27000	25400	26700	27000	27200	29500	27600	26300	26800	28900	28700	28500	28900	31600
Strontium	ug/L					510	390	480	510	460	470	470	480	493	584	499	553	640	610	550	530
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW04BRR (cont'd)					
						5/13	11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200			--	--	--	--	--	--
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	[11]	[11]	[11]	[11]	[12]	[11]
Barium, total	ug/L	2000				290	280	270	270	260	270
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--
Calcium, total	ug/L					102000	108000	95000	102000	101000	103000
Chromium, total	ug/L	100				--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--
Copper, total	ug/L	**	1000								
Iron, total	ug/L		300			2000	2000	1900	2000	1900	1900
Iron, Ferrous	ug/L					1870	1770	1680	2030	1760	1720
Lead, total	ug/L	**									
Magnesium, total	ug/L					39800	38700	37200	37800	35800	36600
Manganese, total	ug/L		50			35	35	34	35	33	35
Mercury, total	ug/L	2			2						
Nickel, total	ug/L										
Potassium, total	ug/L					3400	3300	3100	3300	3100	3400
Selenium, total	ug/L	50									
Silver, total	ug/L		100			--	--	--	--	--	--
Sodium, total	ug/L					35100	31800	31100	32400	32000	37100
Strontium	ug/L					680	530	450	550	520	490
Thallium, total	ug/L	2									
Vanadium, total	ug/L					--	--	--	--	--	--
Zinc, total	ug/L		5000								

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW05A									
						2/95	2/95 Dup.	5/95	7-8/95	5/96	11/96	5/97	11/97	9/98	5/99
Aluminum, total	ug/L		50-200							--	--	--	--	--	--
Antimony, total	ug/L	6			10/5						--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50			11.1	5.8	6.6		11.0		23.3	20.2
Barium, total	ug/L	2000				229.0	233.0	214	231	--	--	--	--	--	--
Beryllium, total	ug/L	4		2	1*					--	--	--	--	--	--
Cadmium, total	ug/L	5								--	--	--	--	--	--
Calcium, total	ug/L					102000	103000	100000	111000	--	--	--	--	--	120000
Chromium, total	ug/L	100							3.7	--	--	--	--	--	--
Cobalt, total	ug/L									--	--	--	--	--	--
Copper, total	ug/L	**	1000							--	--	--	--	--	--
Iron, total	ug/L		300			2560.0	2480.0	9260	3690	--	--	--	--	--	4110
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	--	--
Lead, total	ug/L	**								--	--	--	--	--	--
Magnesium, total	ug/L					36200	36800	34600	40100	--	--	--	--	--	38000
Manganese, total	ug/L		50			220.0	226.0	124	182	--	--	--	--	--	563
Mercury, total	ug/L	2			2					--	--	--	--	--	--
Nickel, total	ug/L									--	--	--	--	--	--
Potassium, total	ug/L					3460	3460	3060	3750	--	--	--	--	--	4100
Selenium, total	ug/L	50								--	--	--	--	--	--
Silver, total	ug/L		100						2.4	--	--	--	--	--	--
Sodium, total	ug/L					37700	38100	58100	52200	--	--	--	--	--	41100
Strontium	ug/L					--	--	--	--	--	--	--	--	--	--
Thallium, total	ug/L	2								--	--	--	--	--	--
Vanadium, total	ug/L									--	--	--	--	--	--
Zinc, total	ug/L		5000							--	--	--	--	--	--

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METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW05AR															
						5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05
Aluminum, total	ug/L		50-200				--		--		--		--		--						
Antimony, total	ug/L	6			10/5																
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	2.6	3.0	4.3	2.4	1.3	2.0	1.8	2.9	2.8	7.2	3.3	1.6	3.6	9.2	5.1	1.8
Barium, total	ug/L	2000				250	--	260	--	210	--	200	--	190	--	210	220	180	200	200	180
Beryllium, total	ug/L	4		2	1*																
Cadmium, total	ug/L	5																			
Calcium, total	ug/L					100000	94800	109000	99700	107000	107000	110000	103000	104000	101000	110000	130000J	101000	104000	110000	118000
Chromium, total	ug/L	100																			
Cobalt, total	ug/L																				
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300			2300	2200	3400	2500	380	2000	2600	1600	1500	5000	3100	2300J	2700J	9100	3400	710
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	920	1560	1460	1010	2000	2290	2320	480
Lead, total	ug/L	**																			
Magnesium, total	ug/L					34400	33800	38600	33200	31300	38000	38300	32200	36000	38200	38500	37900	38800	39500	40400	39000
Manganese, total	ug/L		50			270	--	280	--	320	--	300	--	320	--	240	600	200	220	230	300
Mercury, total	ug/L	2			2																
Nickel, total	ug/L																				
Potassium, total	ug/L					5400	5000	5300	5500	5400	4700	3600	4200	4200	4100	4500	5000	5000	6300	5200	6200
Selenium, total	ug/L	50																			
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					45800	68600 J	62700	49500	49600	73400	55000	42600	47100	46700	43300	47400	59300	46800	52600	43800
Strontium	ug/L					770	--	790J	--	660	--	720J	--	880	--	720	780	670J	560	860	780
Thallium, total	ug/L	2																			
Vanadium, total	ug/L																				
Zinc, total	ug/L		5000																		

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HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW05AR (cont'd)															
						11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--	--	--	220	--	--	--	
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	1.8		1.6	1.9	3.1	1.2	2.1		1.0		1.0		3.3		1.3	
Barium, total	ug/L	2000				170	170	160	260	200	190	160	174	187	149	179	200	140	130	160	
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L					116000	105000	108000	139000	106000	118000	90100	113000	112000	99600	108000	131000	85000	83000	97100	
Chromium, total	ug/L	100																			
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300			660	730	1000	1300	3000	350	1600	349	664	218	601	210	2500	140	1200	
Iron, Ferrous	ug/L					220	490	510	--	990	50	590		340	40	240	20	290		20	
Lead, total	ug/L	**																			
Magnesium, total	ug/L					35600	34200	35800	48200	37600	37600	36100	35200	36400	32700	35900	38300	34100	33500	34900	
Manganese, total	ug/L		50			270	480	360	530	260	440	180	459	409	260	446	170	190	160	250	
Mercury, total	ug/L	2			2																
Nickel, total	ug/L																				
Potassium, total	ug/L					5500	5000	4200	6800	6000	4700	4500	5000	5290	3990	4660	4500	3000	3100	4000	
Selenium, total	ug/L	50																			
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L					38900	52200	45300	53500	45700	41800	44300	48500	51500	58600	63000	63700	57700	51700	48300	
Strontium	ug/L					880	570	680	1100	720	840	650	777	750	532	620	770	480	550	600	
Thallium, total	ug/L	2																			
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000																		

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<sup>1</sup> Risk-based cleanup levels from Powell Road Landfill ROD, Table 21.

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\* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L. The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW05AR (cont'd)				
						11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200					140	370	
Antimony, total	ug/L	6			10/5	--		--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50		1.4	2.1	3.7	
Barium, total	ug/L	2000				150	210	170	170	150
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--
Calcium, total	ug/L					91500	130000	86800	109000	95500
Chromium, total	ug/L	100								
Cobalt, total	ug/L					--	--	--	--	--
Copper, total	ug/L	**	1000							
Iron, total	ug/L		300			100	550	1000	2100	100
Iron, Ferrous	ug/L					90	30	180	140	360
Lead, total	ug/L	**								
Magnesium, total	ug/L					32300	51000	39500	34900	33500
Manganese, total	ug/L		50			190	410	260	320	220
Mercury, total	ug/L	2			2					
Nickel, total	ug/L									
Potassium, total	ug/L					3400	6400	4700	5200	4000
Selenium, total	ug/L	50								
Silver, total	ug/L		100			--	--	--	--	--
Sodium, total	ug/L					65900	63900	60900	61000	64000
Strontium	ug/L					530	650	490	620	510
Thallium, total	ug/L	2								
Vanadium, total	ug/L					--	--	--	--	--
Zinc, total	ug/L		5000							

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<sup>1</sup> Risk-based cleanup levels from Powell Road Landfill ROD, Table 21.

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<sup>4</sup> MCL for arsenic changed to 10 ug/L effective 2/22/02.

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW05BR															
						5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05
Aluminum, total	ug/L		50-200				--		--		--		--		--						
Antimony, total	ug/L	6			10/5		--		--		--		--		--				--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50		--		--		--		--		--	1.1		1.1		--	--
Barium, total	ug/L	2000				220	--	150	--	170	--	160	--	180	--	170	170	180	180	170	210
Beryllium, total	ug/L	4		2	1*		--		--		--		--		--				--	--	--
Cadmium, total	ug/L	5					--		--		--		--		--				--	--	--
Calcium, total	ug/L					98000	61000	78500	72900	82800	76700	81200	82200	85800	81900	84800	85300J	90100	90200	82800	102000
Chromium, total	ug/L	100					--		--		--		--		--					--	--
Cobalt, total	ug/L						--		--		--		--		--					--	--
Copper, total	ug/L	**	1000				--		--		--		--		--					--	--
Iron, total	ug/L		300				--		--		--		--		--					--	--
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	230			UJ		50	20	10
Lead, total	ug/L	**					--		--		--		--		--					--	--
Magnesium, total	ug/L					39400	23800	31900	29000	32300	30700	33800	34300	36000	35300	35700	34700	36400	35400	33300	39000
Manganese, total	ug/L		50				--		--		--		--		--					--	--
Mercury, total	ug/L	2			2		--		--		--		--		--					--	--
Nickel, total	ug/L						--		--		--		--		--					--	--
Potassium, total	ug/L					3100	2500	2200	2400	2800	2800	2100	2800	2800	2500	2400	2700	2600	2800	2400	2900
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100				--		--		--		--		--		--		--	--	--
Sodium, total	ug/L					63800	73700 J	48400	44400	60900	76400	48300	44300	45200	44400	41800	54200	47300	51300	48800	49400
Strontium	ug/L					1100	--	810J	--	780	--	770J	--	950	--	910	830	890J	850	1000	1100
Thallium, total	ug/L	2					--		--		--		--		--					--	--
Vanadium, total	ug/L						--		--		--		--		--					--	--
Zinc, total	ug/L		5000				--		--		--		--		--					--	--

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\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW05BR (cont'd)															
						11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13
Aluminum, total	ug/L	6	50-200																		
Antimony, total	ug/L	50/10 <sup>4</sup>		4	10/5 50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, total	ug/L																				
Barium, total	ug/L	2000				160	180	160	160	160	170	170	180	143	173	150	180	150	180	160	
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Calcium, total	ug/L					82700	85000	80500	79400	83200	85500	86300	86300	74000	84400	75300	81300	76900	82500	79500	
Chromium, total	ug/L	100																			
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300				79														
Iron, Ferrous	ug/L					30	20	20	--	30	20			10	20	30	30	220	20		
Lead, total	ug/L	**																			
Magnesium, total	ug/L					33200	34100	34300	32300J+	33200	32600	34600	33400	29700	33600	32000	36100	32700	34600	34000	
Manganese, total	ug/L		50																	32300	
Mercury, total	ug/L	2			2																
Nickel, total	ug/L																				
Potassium, total	ug/L					2300	2600	2000	2200	2200	2300	2300	2680	2140	2550	2320	2800	2100	2400	2200	
Selenium, total	ug/L	50																		2600	
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L					51800	50600	46200	33800	43500	42600	44700	81000	55400	63400	56800	70500	49400	49700	69900	
Strontium	ug/L					980	740	760	980	870	1100	970	1010	877	709	648	780	590	850	760	
Thallium, total	ug/L	2																			
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000																		

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW05BR (cont'd)				
						11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200							
Antimony, total	ug/L	6			10/5	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50					
Barium, total	ug/L	2000				150	180	170	170	140
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--
Calcium, total	ug/L					74900	81000	78700	82700	72600
Chromium, total	ug/L	100								
Cobalt, total	ug/L					--	--	--	--	--
Copper, total	ug/L	**	1000							
Iron, total	ug/L		300							
Iron, Ferrous	ug/L					80		50		
Lead, total	ug/L	**								
Magnesium, total	ug/L					31400	35100	33900	33400	29500
Manganese, total	ug/L		50							
Mercury, total	ug/L	2			2					
Nickel, total	ug/L									
Potassium, total	ug/L					2300	2300	2400	2700	2200
Selenium, total	ug/L	50								
Silver, total	ug/L		100			--	--	--	--	--
Sodium, total	ug/L					62600	44400	57600	67000	60900
Strontium	ug/L					700	680	750	690	540J
Thallium, total	ug/L	2								
Vanadium, total	ug/L					--	--	--	--	--
Zinc, total	ug/L		5000							

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW07A				MW08B							
						2/95	5/95	5/95 Dup.	7-8/95	2/95	5/95	7-8/95	12/95	5/96	11/96	5/97	11/97
Aluminum, total	ug/L		50-200								9		--	--	--	--	--
Antimony, total	ug/L	6			10/5								--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50								--	--	--	--	--
Barium, total	ug/L	2000				86.9			103	139.0	135	115	--	--	--	--	--
Beryllium, total	ug/L	4		2	1*								--	--	--	--	--
Cadmium, total	ug/L	5											--	--	--	--	--
Calcium, total	ug/L					156000	129000	140000	187000	94500	90400	83100	--	--	--	--	--
Chromium, total	ug/L	100								13.2		14.8	6.0	18.2	45.7	8.9	16.7
Cobalt, total	ug/L												--	--	--	--	--
Copper, total	ug/L	**	1000										--	--	--	--	--
Iron, total	ug/L		300				181	152	535	491.0	498	493	--	--	--	--	--
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	--	--	--	--
Lead, total	ug/L	**											--	--	--	--	--
Magnesium, total	ug/L					35100	28800	31100	40100	34600	32100	29300	--	--	--	--	--
Manganese, total	ug/L		50						15.4	7.9		5.2	--	--	--	--	--
Mercury, total	ug/L	2			2								--	--	--	--	--
Nickel, total	ug/L											54	--	--	--	--	--
Potassium, total	ug/L					1810			2190	3050	2390	2180	--	--	--	--	--
Selenium, total	ug/L	50											--	--	--	--	--
Silver, total	ug/L		100										--	--	--	--	--
Sodium, total	ug/L					20600	23000	24600	26100	42900	62500	62700	--	--	--	--	--
Strontium	ug/L					--	--	--	--	--	--	--	--	--	--	--	--
Thallium, total	ug/L	2											--	--	--	--	--
Vanadium, total	ug/L												--	--	--	--	--
Zinc, total	ug/L		5000										--	--	--	--	--

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METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW12A															
						2/95	5/95	7-8/95	12/95	5/96	11/96	5/97	11/97	9/98	5/99	5/00	8/00	11/00	2/01	5/01	8/01
Aluminum, total	ug/L	6	50-200						--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	50/10 <sup>4</sup>		4	10/5				--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	2000			50				--	--	--	--	--	--	--	--	--	--	--	--	1.4
Barium, total	ug/L	4		2	1*	129.0	128	115	--	--	--	--	--	--	110.0	--	140.0	--	--	120	--
Beryllium, total	ug/L	5							--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	100				86300	87200	86800	--	--	--	--	--	--	79500	84800	82300	91400	77900	86600	96700
Chromium, total	ug/L	**	1000			[119]	80.3	[120]	33	34.4	23.9	[127]	49	83	22	61.0	--	32.0	--	14	--
Cobalt, total	ug/L								--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L		300			817.0	407	785	--	--	--	--	--	--	--	250	1700	160	170	89	2200
Iron, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, Ferrous	ug/L								--	--	--	--	--	--	--	--	--	--	--	--	--
Lead, total	ug/L					37900	37800	36000	--	--	--	--	--	--	33200	33400	33100	36700	31500	33100	38700
Magnesium, total	ug/L	2	50		2	8.0			--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese, total	ug/L								--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, total	ug/L								--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L								--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					3130	2560	2860	--	--	--	--	--	--	2500	3100	3000	2600	2700	3200	--
Selenium, total	ug/L	50							--	--	--	--	--	--	5.0	--	--	--	--	--	--
Silver, total	ug/L		100						--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					25500	32500	27300	--	--	--	--	--	--	26700	47100	40800 J	37700	34400	65300	38900
Strontium	ug/L					--	--	--	--	--	--	--	--	--	470	--	610J	--	--	500	--
Thallium, total	ug/L	2							--	--	--	--	--	--	[10.1]	--	--	--	--	--	--
Vanadium, total	ug/L								--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000						--	--	--	--	--	--	--	--	--	--	--	--	--

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POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW12A (cont'd)															
						11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05	11/05	5/06	11/06	5/07	11/07	5/08
Aluminum, total	ug/L		50-200				--		--												
Antimony, total	ug/L	6			10/5								--	--	--	--	--	--	--	--	
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50		1.1		2.2			1.4									
Barium, total	ug/L	2000				140	--	95	--	20	120	130	100	120	100	120	110	120	79	110	
Beryllium, total	ug/L	4		2	1*								--	--	--	--	--	--	--	--	
Cadmium, total	ug/L	5											--	--	--	--	--	--	--	--	
Calcium, total	ug/L					96700	96300	81200	81000	6000R	84500J	91000	83300	80800	83500	87600	81100	94500	71800	79700	
Chromium, total	ug/L	100				21	--	25	--		23	12	12		72	29	19	93	12	36	
Cobalt, total	ug/L													--	--	--	--	--	--	--	
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300			240	210	130	5200		89J	220J	57	120	380	190	150	430	140	260	
Iron, Ferrous	ug/L					--	--	--	--			10	10	80	30	70	10	20		20	
Lead, total	ug/L	**																			
Magnesium, total	ug/L					38200	39800	33700	35100	26600	35500	37700	35900	33600	37000	37500	34900	39000	30800J+	33400	
Manganese, total	ug/L		50																	33100	
Mercury, total	ug/L	2			2																
Nickel, total	ug/L																				
Potassium, total	ug/L					2400	2300	1900	2400	3100	2300	2900	2400	2600	3100	2900	2300	2200	2100	2400	
Selenium, total	ug/L	50																		2000	
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L					40000	39900	31700	28700	30800	36400	30700	31500	28600	47000	37100	31100	51900	25000	34200	
Strontium	ug/L					550J	--	480	--	540	540	620J	400	600	510	560	430	510	490	500	
Thallium, total	ug/L	2																			
Vanadium, total	ug/L												--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000																		

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\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW12A (cont'd)														
						11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13	11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200																	
Antimony, total	ug/L	6			10/5	--	--		--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50															
Barium, total	ug/L	2000				120	94.4	111	122	143	120	120	110	120	110	130	110	140	110	130
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					82000	73900	76900	91000	90500	106000	88100	81100	82700	94100	83800	79400	87600	94300	84000
Chromium, total	ug/L	100				[290]	92.5	13.6	18.5	[103]	100	[160]	37	93	37	53	[120]	[110]	34	
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000																	
Iron, total	ug/L		300			1700	491	84	162	488	580	81	200	510	200	360	840	1400	340	
Iron, Ferrous	ug/L					10		10		30	30	120	170		70	90	50		130	
Lead, total	ug/L	**																		
Magnesium, total	ug/L					35000	32500	33100	38100	37400	36500	37600	35700	36200	40900	35200	36300	38800	40200	36300
Manganese, total	ug/L		50																	
Mercury, total	ug/L	2			2															
Nickel, total	ug/L																			
Potassium, total	ug/L					2300	2420	2300	2200	2790	2200	2500	2300	2600	2400	2600	2000	2500	2000	2500
Selenium, total	ug/L	50																		
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					28600	109000	31500	45200	39700	78600	36600	33000	38300	39800	40700	38700	42000	41400	40300
Strontium	ug/L					520	434	521	452	558	480	530	570	550	630	600	420	540	540	490
Thallium, total	ug/L	2																		
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000																	

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW12B															
						5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05
Aluminum, total	ug/L	6	50-200				--		--		--		--		--						
Antimony, total	ug/L				10/5																
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	8.6	8.5	10	[12]	9.1	9.7	8.7	8.4	9.8	8.1	10	7.7	9.8	9.4	[13]	[13]
Barium, total	ug/L	2000				380	--	370	--	340	--	370	--	350	--	350	310	350	330	340	350
Beryllium, total	ug/L	4		2	1*																
Cadmium, total	ug/L	5																			
Calcium, total	ug/L					80900	77100	85500	75700	79000	86000	83700	81400	78100	78900	83600	78200J	82300	80300	81800	81100
Chromium, total	ug/L	100																			
Cobalt, total	ug/L																				
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300			1800	2000	2000	1800	1700	2200	2100	2000	1900	1900	2000	1400J	2000J	2100	2100	2300
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	1910	1830	1340	1370	1760	1660	1710	1810
Lead, total	ug/L	**																			
Magnesium, total	ug/L					35900	33700	37700	33400	34000	37500	37200	36200	34700	36400	36900	34800	37100	36300	36100	35700
Manganese, total	ug/L		50			49.0	--	38.0	--	37	--	36	--	31	--	33	42	32	34	34	31
Mercury, total	ug/L	2			2																
Nickel, total	ug/L																				
Potassium, total	ug/L					2000	2000	2000	2000	2200	2400	1800	2100	1900	2000	2400	2000	2000	2000	1900	1900
Selenium, total	ug/L	50																			
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					24600	23200 J	24500	23500	25300	27800	27300	27000	24900	26300	27300	27200	26400	26900	28700	27600
Strontium	ug/L					1900	--	2100J	--	1700	--	1600J	--	2400	--	1900	1600	1900J	1400	1700	1800
Thallium, total	ug/L	2																			
Vanadium, total	ug/L																				
Zinc, total	ug/L		5000																		

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW12B (cont'd)															
						11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	8.8	8	8.4	8.6	8.6	8.5	9.2	8.4	8.5	2.3	8.6	8.5	9.1	8.8	9.1	9.2
Barium, total	ug/L	2000				330	340	340	350	330	330	320	320	318	61.4	324	340	330	330	320	310
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					85900	81100	81100	77500	80900	78200	77200	79500	78900	80900	77700	80300	77100	75600	76100	75200
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			2000	2000	2000	1900	2000	1900	2000	1760	1640	1280	1890	1800	1800	1800	1800	1900
Iron, Ferrous	ug/L					1410	1850	1880	1870	1020	1900	1330	1460	660	1040	660	1230	1160	1350	970	1720
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					37800	36200	37900	35100J+	36000	34700	34500	35800	35700	13100	35300	35300	34700	34400	34400	34600
Manganese, total	ug/L		50			35	34	33	32	33	32	32	39	44.1	94.2	39.1	38	40	39	41	39
Mercury, total	ug/L	2		2		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					1900	1800	1700	1900	1800	1700	1800	2000	1960	1810	2060	2100	2000	1900	2000	2100
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					30200	27600	29300	28500	31600	30600	31000	35600	35400	32800	40300	36000	39000	38500	41000	41100
Strontium	ug/L					1800	1400	1800	2200	1700	2200	1800	1660	1830	292	1810	2100	2500	2000	2300	2100
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW12B (cont'd)				
						11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200							
Antimony, total	ug/L	6		10/5		--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	9.2	8.5	8.5	9.1	8.5
Barium, total	ug/L	2000				330	310	330	320	320
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--
Calcium, total	ug/L					77600	73100	76700	75700	75200
Chromium, total	ug/L	100								
Cobalt, total	ug/L					--	--	--	--	--
Copper, total	ug/L	**	1000							
Iron, total	ug/L		300			1900	1800	1800	1900	1600
Iron, Ferrous	ug/L					1790	1490	1610	1880	1290
Lead, total	ug/L	**								
Magnesium, total	ug/L					34300	34200	36000	33700	34200
Manganese, total	ug/L		50			41	34	42	39	44
Mercury, total	ug/L	2			2					
Nickel, total	ug/L									
Potassium, total	ug/L					2100	1900	2000	2100	2200
Selenium, total	ug/L	50								
Silver, total	ug/L		100			--	--	--	--	--
Sodium, total	ug/L					45400	37900	45300	41300	45800
Strontium	ug/L					1900	1500	1800	1700	1700
Thallium, total	ug/L	2								
Vanadium, total	ug/L					--	--	--	--	--
Zinc, total	ug/L		5000							

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METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW13B															
						2/95	5/95	7-8/95	5/99	5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03
Aluminum, total	ug/L	6	50-200						--	--	--		--	--	--		--	--	--		--
Antimony, total	ug/L				10/5				--	--	--		--	--	--		--	--	--		--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50		5.7	4.5	--	3.8	3.4	7.8	4.6	3.7	3.9	2.6	3.9	4.4	4.9	4.6	3.6
Barium, total	ug/L	2000				253.0	226	240	--	--	--	220	--	--	--	220	--	--	--	190	
Beryllium, total	ug/L	4		2	1*				--	--	--		--	--	--		--	--	--		
Cadmium, total	ug/L	5							--	--	--		--	--	--		--	--	--		
Calcium, total	ug/L					106000	94500	105000	95000	99300	93000	101000	92700	94300	102000	105000	99800	94800	96900	95200	93000
Chromium, total	ug/L	100							--	--	--		--	--	--		--	--	--		
Cobalt, total	ug/L								--	--	--		--	--	--		--	--	--		
Copper, total	ug/L	**	1000						--	--	--		--	--	--		--	--	--		
Iron, total	ug/L		300			3190.0	2520	2720	2520	2600	2500	2600	2500	2500	2700	2800	2800	2600	2600	2600	2500
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	2710	2540	2230	2110
Lead, total	ug/L	**							--	--	--		--	--	--		--	--	--		
Magnesium, total	ug/L					38400	33300	36300	35000	34600	32400	35500	32600	32400	35700	36800	35000	33300	34800	34400	33100
Manganese, total	ug/L		50			68.4	57.8	63.8	58.4	--	--	65	--	--	--	72	--	--	--	70	
Mercury, total	ug/L	2			2				--	--	--		--	--	--		--	--	--		
Nickel, total	ug/L								--	--	--		--	--	--		--	--	--		
Potassium, total	ug/L					2280	2270			2600	2700		2800	2700	3000	2800	2600	2700	3000	2700	2600
Selenium, total	ug/L	50							--	--	--		--	--	--		--	--	--		
Silver, total	ug/L		100					2.2	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					20100	18600	19700	16400	17800	17200 J	17900	17400	16900	18600	18800	18100	17900	18900	18000	19000
Strontium	ug/L					--	--	--	--	--	--	430J	--	--	--	190J	--	--	--	140	
Thallium, total	ug/L	2							--	--	--		--	--	--		--	--	--		
Vanadium, total	ug/L								--	--	--		--	--	--		--	--	--		
Zinc, total	ug/L		5000						--	--	--		--	--	--		--	--	--		

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METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW13B (cont'd)															
						11/03	5/04	11/04	5/05	11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11
Aluminum, total	ug/L		50-200				--		--		--		--		--		--	568		--	--
Antimony, total	ug/L	6			10/5				--		--		--		--		--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	4.8	4.5	5.7	5.0	4.0	3.5	3.8	3.8	4.0	3.9	3.9	4.2	4.5	4.8	5.5	5.0
Barium, total	ug/L	2000				200	--	200	--	210	--	210	--	220	--	210	--	234	--	254	--
Beryllium, total	ug/L	4		2	1*			--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5						--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					95600	90500	92700	96600	97900	96500	93400	93100	95000	94700	93400	96600	115000	98700	103000	95700
Chromium, total	ug/L	100							--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L								--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000						--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			2800J	3200	2800	2600	2700	2600	2600	2600	2700	2600	2500	2560	3470	2680	2970	2200
Iron, Ferrous	ug/L					2380	1960	2310	2560	1870	2390	2220	--	2790	2020	1890	2030	690	2630	530	1240
Lead, total	ug/L	**							--	--	--	--	--	--	--	--	--	8.9	--	--	--
Magnesium, total	ug/L					33500	32700	31700	32000	32700	33400	33200	33200J+	33200	32900	34100	34900	41600	35700	36600	35600
Manganese, total	ug/L		50			70	--	71	--	70	--	72	--	67	--	64	--	142	--	74.2	--
Mercury, total	ug/L	2			2				--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L								--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					2700	2500	2400	2400	2500	2600	2400	2500	2600	2600	2700	2550	3140	2810	2910	2200
Selenium, total	ug/L	50							--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--			--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					21200	19700	20000	20000	20800	21100	19800	21700	23900	22500	21400	22100	22900	24600	27600	20300
Strontium	ug/L					160J	--	200	--	190	--	170	--	180	--	190	--	216	--	208	--
Thallium, total	ug/L	2							--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L								--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000						--	--	--	--	--	--	--	--	--	--	--	--	--

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The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW13B (cont'd)								
						10/11	5/12	11/12	5/13	11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	4.2	4.2	6.5	4.7	5.2	4.5	4.5	4.4	4.2
Barium, total	ug/L	2000				250	--	250	--	230	--	270	--	240
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					99000	96500	98100	92700	92200	91100	96500	89200	89900
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			2800	2700	3000	2900	2700	2600	2800	2800	2600
Iron, Ferrous	ug/L					2260	1340	1980	1920	1230	1710	2590	2040	2180
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					36400	34300	37000	34900	33100	34400	36900	32500	32700
Manganese, total	ug/L		50			71	--	71	--	65	--	76	--	63
Mercury, total	ug/L	2			2	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					3400	3200	3000	3400	3000	2600	3300	3100	3300
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					33300	30000	30000	28500	26300	25200	29300	32000	38600
Strontium	ug/L					220	--	210	--	210	--	200	--	170
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW13C															
						5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05
Aluminum, total	ug/L		50-200			330	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5																
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	6.0	7.2	15.0	7.9	6.3	5.4	6.0	6.4	6.7	6.9	6.7	6.0	7.2	4.7	8.2	7.2
Barium, total	ug/L	2000				380	--	--	--	340	--	--	--	330	--	--	330	--	320	--	330
Beryllium, total	ug/L	4		2	1*		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					101000	89300	96800	83500	91200	101000	98600	93300	89100	93200	84700	91800J	92700	90100	86200	94800
Chromium, total	ug/L	100					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			2700	2400	2500	2200	2400	2700	2600	2500	2400	2500	2200	2400J	2500J	2100	2400	2400
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	2780	2420	2260	2150	2210	1920	2250	2300
Lead, total	ug/L	**					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					38100	33300	36200	31800	33900	38100	37500	35900	34200	36200	32900	35800	35300	34000	33000	35000
Manganese, total	ug/L		50			64.0	--	--	--	59	--	--	--	59	--	--	62	--	62	--	59
Mercury, total	ug/L	2			2		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					2200	1900	1900	1800	2000	2200	2000	1900	1900	1900	1900	1900	2000	2000	1900	1800
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					16900	15100 J	15200	14500	15000	16400	16600	15900	15400	16600	15600	15100	15800	15600	15700	17000
Strontium	ug/L					420	--	--	--	380	--	--	--	450	--	--	410	--	300	--	380
Thallium, total	ug/L	2					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW13C (cont'd)															
						11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	5.6	5.1	5.4	5.1	6.0	4.9	5.0	5.2	5.6	5.8	5.7	4.0	5.6	5.3	6.1	5.5
Barium, total	ug/L	2000				--	320	--	330	--	330	--	334	--	346	--	260	--	360	--	360
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					91700	89600	88100	86400	86800	92200	91400	94000	92100	92200	89500	106000	92700	92600	89100	87900
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			2400	2200	2300	2200	2300	2300	2400	2490	2430	2370	2230	2800	2600	2500	2600	2400
Iron, Ferrous	ug/L					1950	2160	1940	--	2350	2180	1860	2060	790	1460	990	880	1830	2290	2310	1770
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					34300	33700	34200	33300J <sup>3</sup>	31900	34200	35000	35400	34900	34900	35400	37200	36000	35000	34300	34700
Manganese, total	ug/L		50			--	59	--	58	--	65	--	65	--	60.6	--	72	--	58	--	57
Mercury, total	ug/L	2		2		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					1800	1800	1700	1800	1800	1800	1900	1900	1900	1920	2110	3300	2300	2200	2200	2100
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					17600	17800	18300	17800	17600	17200	16800	17300	18000	18100	19600	31400	20000	20400	20000	20800
Strontium	ug/L					--	280	--	340	--	340	--	359	--	325	--	220	--	420	--	460
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW13C (cont'd)				
						11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200			--	--	--	--	--
Antimony, total	ug/L	6			10/5	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	5.5	5.6	5.3	5.2	5.2
Barium, total	ug/L	2000				--	360	--	370	--
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--
Calcium, total	ug/L					89500	85000	90700	88600	88900
Chromium, total	ug/L	100				--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--
Iron, total	ug/L		300			2500	2400	2500	2500	2400
Iron, Ferrous	ug/L					1790	1560	2170	2200	2080
Lead, total	ug/L	**				--	--	--	--	--
Magnesium, total	ug/L					34200	35100	37000	34600	34300
Manganese, total	ug/L		50			--	56	--	59	--
Mercury, total	ug/L	2			2	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--
Potassium, total	ug/L					2200	2000	2400	2400	2400
Selenium, total	ug/L	50				--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--
Sodium, total	ug/L					23900	20500	23300	23800	23300
Strontium	ug/L					--	380	--	460	--
Thallium, total	ug/L	2				--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--

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METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW14B															
						2/95	5/95	7-8/95	12/95	5/96	11/96	5/97	11/97	9/98	5/99	5/00	8/00	11/00	2/01	5/01	8/01
Aluminum, total	ug/L	6	50-200						--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	50/10 <sup>4</sup>			10/5																
Arsenic, total	ug/L			4	50			5.0		5.8					6.13	3.9	4.2	4.4	3.9	3.4	
Barium, total	ug/L	2000				201.0	193	207	--	--	--	--	--	--	--	--	--	200	--	--	--
Beryllium, total	ug/L	4		2	1*																
Cadmium, total	ug/L	5																			
Calcium, total	ug/L					99400	94300	102000	--	--	--	--	--	--	91300	97200	91500	101000	88700	92100	94700
Chromium, total	ug/L	100																			
Cobalt, total	ug/L																				
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300			2650.0	2540	2780							2510	2700	2600	2800	2500	2600	2700
Iron, Ferrous	ug/L					--	--	--													
Lead, total	ug/L	**																			
Magnesium, total	ug/L					38100	35800	37700							35000	36800	34000	38000	33900	33800	35600
Manganese, total	ug/L		50			71.1	67.9	73.1	--	--	--	--	--	--	67.9			75			
Mercury, total	ug/L	2			2		0.12														
Nickel, total	ug/L																				
Potassium, total	ug/L					1870		1660								1900	1900		1900	2100	2200
Selenium, total	ug/L	50																			
Silver, total	ug/L		100																		
Sodium, total	ug/L					13700	13400	14500	--	--	--	--	--	--	13700	14900	15800 J		15700	17000	17100
Strontium	ug/L					--	--	--										2000			
Thallium, total	ug/L	2													[12.1]						
Vanadium, total	ug/L																				
Zinc, total	ug/L		5000																		

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METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW14B (cont'd)															
						11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05	11/05	5/06	11/06	5/07	11/07	5/08
Aluminum, total	ug/L	6	50-200				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L				10/5																
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	2.5	3.0	4.1	2.7	3.7	3.6	4.4	3.3	4.9	4.2	3.7	3.2	3.5	3.3	3.4	3.5
Barium, total	ug/L	2000				200	--	--	--	190	--	220	--	200	--	210	--	190	--	190	--
Beryllium, total	ug/L	4		2	1*						--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5																			
Calcium, total	ug/L					94900	90400	89900	92100	91300	88500	95800	92300	91900	96700	98500	93200	85800	82900	83100	85000
Chromium, total	ug/L	100									--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L										--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000								--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			2600	2500	2600	2600	2400	2500	2700	2600	2600	2600	2800	2600	2500	2400	2400	2400
Iron, Ferrous	ug/L					--	--	2280	2430	1640	1970	2270	1670	2500	2470	2420	2420	1800	--	2410	2060
Lead, total	ug/L	**									--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					36000	34700	34800	35500	35800	34200	35400	35600	35100	36100	36600	34500	33400	32200+	30500	31300
Manganese, total	ug/L		50			71	--	--	--	69	--	70	--	71	--	74	--	69	--	65	--
Mercury, total	ug/L	2			2						--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L										--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					2000	1900	2000	2000	2000	2000	2300	2200	2000	2100	2100	2100	1900	2000	2000	2000
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					17100	16300	17500	18300	17500	20200	20600	19600	20300	21000	21800	22300	22400	21200	25600	22900
Strontium	ug/L					210	--	--	--	190	--	210	--	220	--	210	--	200	--	180	--
Thallium, total	ug/L	2									--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L										--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000								--	--	--	--	--	--	--	--	--	--	--

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\* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L. The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW14B (cont'd)														
						11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13	11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	3.0	3.4	3.6	3.6	3.4	3.2	3.3	3.3	3.6	3.5	3.9	3.4	3.4	3.3	3.1
Barium, total	ug/L	2000				180	--	193	--	200	--	210	--	200	--	170	--	240	--	220
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					82100	87600	86100	89000	89100	89800	88900	88800	84000	83900	83500	82200	85400	87300	86200
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			2400	2480	2540	2470	2490	2400	2600	2600	2300	2500	2400	2300	2400	2600	2400
Iron, Ferrous	ug/L					1670	2020	890	500	600	1710	1650	2540	1400	1910	1970	1650	2000	1880	2740
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					31000	32800	32100	32600	32100	31600	32400	32000	32400	32700	30900	31400	33400	32900	32300
Manganese, total	ug/L		50			64	--	71.2	--	77.4	--	75	--	73	--	66	--	76	--	70
Mercury, total	ug/L	2			2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					2000	2150	2270	2300	2510	2800	3000	3000	2700	2700	2100	2700	3100	2900	2900
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					23900	24700	23900	24100	24200	25000	24200	24200	22700	23600	22900	22700	23200	23800	23200
Strontium	ug/L					180	--	193	--	170	--	170	--	170	--	180	--	180	--	160
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW15B															
						2/95	5/95	7-8/95	5/99	5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03
Aluminum, total	ug/L		50-200							140											
Antimony, total	ug/L	6			10/5																
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50						1							1.2		1.4	
Barium, total	ug/L	2000				259.0	237	269		310		270		270		260		280		250	260
Beryllium, total	ug/L	4		2	1*																
Cadmium, total	ug/L	5																			
Calcium, total	ug/L					98900	88400	104000	89400	98500	85600	92200	87300	89700	95400	93400	94300	95100	95000	94100	93500
Chromium, total	ug/L	100																			
Cobalt, total	ug/L																				
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300								51				96						UJ
Iron, Ferrous	ug/L					--	--	--	--	--		--		--		--	--	140	10		
Lead, total	ug/L	**																			
Magnesium, total	ug/L					40900	34600	40100	37200	38200	32800	35800	34600	34000	36800	36600	37200	37200	37200	36400	35800
Manganese, total	ug/L		50			365.0	303	375	616	660		450	--	400	--	380	--	420	--	430	390
Mercury, total	ug/L	2			2																
Nickel, total	ug/L																				
Potassium, total	ug/L					3170	3240	4390		4200	3400	3200	3200	3500	3600	3000	3100	3300	3300	3400	3700
Selenium, total	ug/L	50								--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100							--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					35000	28000	39100	29300	38300	41400	42000	35100	40600	43300	38500	38000	35500	37400	36100	36400
Strontium	ug/L					--	--	--	--	800	--	750	--	700	--	740	--	880	--	770	740
Thallium, total	ug/L	2																			
Vanadium, total	ug/L																				
Zinc, total	ug/L		5000																		

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW15B (cont'd)															
						11/03	5/04	11/04	5/05	11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11
Aluminum, total	ug/L		50-200				--	--	--	--	--	--	--	--	--	--	--	--	--	101	--
Antimony, total	ug/L	6			10/5																
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	2.0	1.5	1.9	2.5	2.1	2.0	2.2	2.8	3.2	3.4	4.1	3.9	3.9	3.9	6.1	4.0
Barium, total	ug/L	2000				310	300	270	310	280	270	260	280	230	250	250	257	200	224	228	240
Beryllium, total	ug/L	4		2	1*		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					106000	111000	91700	113000	99600	95400	93200	97200	83300	89900	91000	98000	77600	88100	87500	100000
Chromium, total	ug/L	100																			
Cobalt, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300						72	58	97	96	130	250	330	380	476	461	495	966	760
Iron, Ferrous	ug/L					10	39	120	60	80	90	90	--	220	360	370	420	350	380	470	620
Lead, total	ug/L	**																			
Magnesium, total	ug/L					39500	44400	34700	41600	37200	35600	36600	37100+	31600	33600	34900	38100	30300	33900	33100	38200
Manganese, total	ug/L		50			440	540	490	580	520	510	500	500	400	460	420	455	338	322	319	320
Mercury, total	ug/L	2			2																
Nickel, total	ug/L																				
Potassium, total	ug/L					4200	3700	4000	4300	3800	3600	3100	3600	2900	3700	3800	3270	2310	2840	2960	3100
Selenium, total	ug/L	50																			
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					39800	36700	34200	39400	39600	35900	36200	33300	31900	30700	32100	40100	60500	53100	55600	46300
Strontium	ug/L					7901	750	920	920	870	630	750	840	740	770	780	862	675	674	738	950
Thallium, total	ug/L	2																			
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000																		

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW15B (cont'd)								
						10/11	5/12	11/12	5/13	11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	7.1	5.1	5.3	5.1	6.3	6.1	6.9	6.5	6.2
Barium, total	ug/L	2000				260	250	220	230	230	240	260	230	220
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					99000	100000	87700	90900	87300	90600	91500	94200	89300
Chromium, total	ug/L	100												
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000											
Iron, total	ug/L		300			1300	990	850	1000	1100	1100	1200	1300	1300
Iron, Ferrous	ug/L					700	980	870	1030	830	1080	1090	1220	1430
Lead, total	ug/L	**												
Magnesium, total	ug/L					38100	38400	34600	35700	32500	36300	36900	36000	33200
Manganese, total	ug/L		50			330	300	270	290	270	270	250	240	240
Mercury, total	ug/L	2			2									
Nickel, total	ug/L													
Potassium, total	ug/L					3500	3400	2800	3500	3400	3100	3900	3100	3700
Selenium, total	ug/L	50												
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					43200	39800	43100	43300	47900	42600	40800	44200	46500
Strontium	ug/L					890	930	800	890	790	640	840	810	730
Thallium, total	ug/L	2												
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000											

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW15C															
						5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05
Aluminum, total	ug/L		50-200			630	--	--	--	260	--	--	--	200	--	--	--	--	--	--	120
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	13	13	5	15	13	12	12	11	[13]	[11]	[11]	[12]	[13]	[10]	[15]	[15]
Barium, total	ug/L	2000				610	--	--	--	540	--	--	--	510	--	--	500	--	500	--	500
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					92900	80600	87600	79400	84600	87500	88000	81600	79100	83900	81700	80800J	84200	81800	79100	86700
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			3500	2400	2600	2600	2800	2800	2700	2800	2400	2500	1800	2200J	2300J	2100	2200	2200
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	1740	2060	1400	1830	2070	1970	1730	2010
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					4300	36800	40100	37000	38200	40200	40900	38600	37400	39400	39400	38400	38200	38000	37400	40200
Manganese, total	ug/L		50			33	--	--	--	32	--	--	--	27	--	--	23	--	27	--	28
Mercury, total	ug/L	2		2		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					2300	1900	2000	1900	2200	2300	2000	2000	2000	2000	2200	2000	2300	2100	2200	1900
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					13400	12000 J	12300	11700	11600	12700	12700	12200	11800	12800	12000	13000	13400	13500	13300	14900
Strontium	ug/L					5400	--	--	--	640	--	--	--	630	--	--	5300	--	5500	--	7000
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			310	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW15C (cont'd)															
						11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13
Aluminum, total	ug/L		50-200			--	190	--	--	--	--	--	189	--	--	--	--	--	220	--	500
Antimony, total	ug/L	6			10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	[12]	[11]	[11]	[11]	[12]	[13]	[11]	[12.9]	[12.9]	[13.1]	[11.7]	[12.0]	[12.0]	[11.0]	[13.0]	[14.0]
Barium, total	ug/L	2000					510	--	510	--	520	--	520	--	536	--	550	--	550	--	530
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					86000	85800	78800	79400	76100	88200	82500	86100	82400	84000	80800	87300	85200	86600	84000	82400
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			2200	2300	2100	2100	2000	2400	2200	2760	2280	2400	2170	2500	2700	2500	2900	3000
Iron, Ferrous	ug/L					1840	1950	1900	--	1090	1560	1940	2030	680	1130	420	890	1230	1540	2120	2140
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					40000	39200	37800	38400J <sup>3</sup>	34600	39000	39000	39800	38600	39100	39900	39600	40000	39300	38700	39800
Manganese, total	ug/L		50			--	30	--	26	--	29	--	30.2	--	24.5	--	25	--	28	--	33
Mercury, total	ug/L	2		2		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					2000	2000	1900	1800	2000	2000	2600	2220	2340	2440	2490	2200	2300	2600	2500	2400
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					14600	15000	14500	15200	14500	16000	16300	17400	16500	17600	18200	18500	18500	19700	19300	20100
Strontium	ug/L					--	5100	--	6800	--	6100	--	5670	--	4340	--	5400	--	4800	--	5300
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	22.6	--	--	--	--	--	--	--	--

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\* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L.  
The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW15C (cont'd)				
						11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200			--	1300	--	1300	--
Antimony, total	ug/L	6		10/5		--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	[12.0]	[18]	[13]	[13]	[12.0]
Barium, total	ug/L	2000				--	520	--	520	--
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--
Calcium, total	ug/L					79300	94400	81600	83900	80800
Chromium, total	ug/L	100				--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--
Iron, total	ug/L		300			2800	4300	2700	3400	2600
Iron, Ferrous	ug/L					2080	1760	2180	2050	1760
Lead, total	ug/L	**				--	--	--	--	--
Magnesium, total	ug/L					36300	44300	41000	39500	37600
Manganese, total	ug/L		50			--	67	--	41	--
Mercury, total	ug/L	2			2	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--
Potassium, total	ug/L					2200	2500	2600	2500	2400
Selenium, total	ug/L	50				--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--
Sodium, total	ug/L					20700	21200	21200	22100	22400
Strontium	ug/L					--	4400	--	5600	--
Thallium, total	ug/L	2				--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--

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<sup>1</sup> Risk-based cleanup levels from Powell Road Landfill ROD, Table 21.

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW16A															
						2/95	5/95	6/20/95 <sup>3</sup>		6/20/95 Dup.	7-8/95	5/96	11/96	11/96 Dup.	5/97	11/97	9/98	5/99	5/00	8/00	11/00
Aluminum, total	ug/L		50-200								--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5																
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	14.4	12.6	16.9	18.9	19.2	15.9	14.3	12.7	16.0	7.3	13.5	10	6.3	6.6	5.3	7.4
Barium, total	ug/L	2000				641.0	475	476	459	479	464	--	--	--	--	--	--	--	560	--	440
Beryllium, total	ug/L	4		2	1*							--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5										--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					123000	110000	105000	101000	105000	104000	--	--	--	--	--	--	102000	116000	94700	107000
Chromium, total	ug/L	100										--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L											--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000									--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			12500	10100	10900	10700	11100	9960	--	--	--	--	--	--	9020	13800	10000	10300
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead, total	ug/L	**										--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					44900	37400	38200	37400	38900	37200	--	--	--	--	--	--	40800	43000	33500	38200
Manganese, total	ug/L		50			225.0	192	169	159	165	177	--	--	--	--	--	--	154	210	--	170
Mercury, total	ug/L	2			2							--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L											--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					8450	7780	8580	8220	8490	9530	--	--	--	--	--	--	7120	10000	8800	8600
Selenium, total	ug/L	50									1.6	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100									--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					29200	29000	32100	30200	31700	31500	--	--	--	--	--	--	37300	51100	51100 J	34100
Strontium	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	1000	--	870J
Thallium, total	ug/L	2					[3.8]					--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L											--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000					39.2				--	--	--	--	--	--	--	--	--	--

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\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW16A (cont'd)															
						2/01	5/01	8/01	11/01	2/02	2/02 Dup.	5/02	8/02	11/02	5/03	5/03 Dup.	11/03	11/03 Dup.	5/04	11/04	5/05
Aluminum, total	ug/L		50-200			--			--	--	--		--								
Antimony, total	ug/L	6		10/5																	
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	6.8	6.8	7	6.5	5.6	5.2	7.3	6.7	6.9	5.3	5.4	6.4	6.3	5.0	6.8	5.0
Barium, total	ug/L	2000				--	440	--	420	--	--	450	--	390	390	400	480	470	490	430	420
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					104000	106000	10500	104000	118000	113000	110000	102000	102000	118000J	119000J	124000	121000	134000	111000	120000
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			10500	10000	9500	9500	10600	10200	9700	8700	8700	9100J	9200J	9400J	9200J	9700	8500	7700
Iron, Ferrous	ug/L					--	--	--	--	--	--	10840	6040	1440	1280		2690		2660	5280	5280
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					37900	37700	37600	38200	42700	41100	40200	38800	36700	40500	40500	46500	45100	48900	40900	41900
Manganese, total	ug/L		50			--	170	--	170	--	--	180	--	160	180	180	190	180	190	160	160
Mercury, total	ug/L	2		2		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					7200	7800	7700	6400	8200	8000	8000	7900	6200	6800	6900	9600	9200	8800	6800	8700
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					32900	33700	36500	36900	42200	41400	41300	39400	33000	34800	35100	47700	45800	43800	35100	38200
Strontium	ug/L					--	820	--	810J	--	--	1000	--	900	940	920	960J	960J	840	1000	1000
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW16A (cont'd)															
						11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	5.0	4.2	4.4	3.6	3.6	2.4	3.5	2.8	3.7	3.9	5.1	[11.0]J <sup>4</sup>	8.5	5.4	4.6	5.3
Barium, total	ug/L	2000				420	390	410	530	440	420	420	381	350	336	277	210	370	380	390	350
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					116000	110000	114000	123000	116000	120000	108000	116000	120000	104000	119000	122000	114000	103000	118000	104000
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			8400	7800	8300	8800	8500	8200	8200	8130	8220	7800	11500	9300	8400	8200	8600	8500
Iron, Ferrous	ug/L					1560	6000	2370	2850	1900	2780	2270	2040	1060	1480	2100	740	2460	4840	2720	1330
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					41800	38800	41700	46600	41600	40700	39000	39000	39700	36000	39400	39500	42600	42100	44800	38600
Manganese, total	ug/L		50			160	160	160	180	180	170	160	173	186	161	287	300	200	170	190	170
Mercury, total	ug/L	2			2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					6800	6600	5800	9300	6200	6700	6400	6070	4940	5880	5400	4800	5600	6200	5200	6400
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					36900	35800	34100	46400	34400	38800	34800	32500	29600	42500	42100	37100	40100	43600	36600	45000
Strontium	ug/L					1100	760	880	1100	870	940	870	787	933	678	805	850	960	860	930	910
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW16A (cont'd)				
						11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200							
Antimony, total	ug/L	6		10/5		--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	3.7	4.5	3.0	2.0	1.7
Barium, total	ug/L	2000				370	440	450	420	470
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--
Calcium, total	ug/L					117000	114000	115000	110000	115000
Chromium, total	ug/L	100								
Cobalt, total	ug/L					--	--	--	--	--
Copper, total	ug/L	**	1000							
Iron, total	ug/L		300			7500	9900	8300	8500	8400
Iron, Ferrous	ug/L					4180	1350	4460	4120	2960
Lead, total	ug/L	**								
Magnesium, total	ug/L					39400	47000	46200	39600	41600
Manganese, total	ug/L		50			180	180	190	190	180
Mercury, total	ug/L	2			2					
Nickel, total	ug/L									
Potassium, total	ug/L					5600	7700	6900	6700	7000
Selenium, total	ug/L	50								
Silver, total	ug/L		100			--	--	--	--	--
Sodium, total	ug/L					35800	53000	44100	43000	43900
Strontium	ug/L					900	760	900	800	800
Thallium, total	ug/L	2								
Vanadium, total	ug/L					--	--	--	--	--
Zinc, total	ug/L		5000							

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POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW16B															
						2/95	5/95	7-8/95	7-8/95 Dup.	5/96	11/96	5/97	11/97	11/97 Dup.	9/98	5/99	5/00	8/00	11/00	2/01	5/01
Aluminum, total	ug/L		50-200							--	--	--	--	--	--	--	6500	--	310	--	--
Antimony, total	ug/L	6			10/5					--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	13.9	13.2	9.8	9.6	7.8	9.6	10.0	10.8	8.4	11	10.5	9.7	6.7	8.5	7.8	7.9
Barium, total	ug/L	2000				242.0	227	218	215	--	--	--	--	--	--	--	320	--	230	--	210
Beryllium, total	ug/L	4		2	1*					--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5								--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					89400	83700	82300	81000	--	--	--	--	--	--	--	81600	84600	77700	84700	77000
Chromium, total	ug/L	100								--	--	--	--	--	--	--	--	--	--	--	77200
Cobalt, total	ug/L									--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000							--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			3140	2780	2020	1850	--	--	--	--	--	--	--	1660	6300	2600	1800	1400
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1500
Lead, total	ug/L	**								--	--	--	--	--	--	--	5.7	--	--	--	--
Magnesium, total	ug/L					35800	33500	33100	32800	--	--	--	--	--	--	--	35300	35900	31800	34800	32000
Manganese, total	ug/L		50			380.0	376	441	453	--	--	--	--	--	--	--	468	510	--	480	--
Mercury, total	ug/L	2			2			0.12	0.13	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L									--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					2470	2820			--	--	--	--	--	--	--	4800	3100	2700	2400	2600
Selenium, total	ug/L	50								--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100							--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					21400	21700	21000	20600	--	--	--	--	--	--	--	24400	29100	26400 J	27600	26600
Strontium	ug/L					--	--	--	--	--	--	--	--	--	--	--	770	--	800J	--	650
Thallium, total	ug/L	2								--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L									--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000							--	--	--	--	--	--	--	34	--	--	--	--

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\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW16B (cont'd)															
						8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05	11/05	5/06	11/06	5/07	11/07
Aluminum, total	ug/L		50-200			--		--	270	--			130								
Antimony, total	ug/L	6		10/5		--		--													
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	7.3	6.5	8.0	7.2	4.9	7.1	5.9	9.8	6.7	10.0	8.0	5.0	5.3	4.8	6.0	5.7
Barium, total	ug/L	2000				--	230	--	240	--	210	230	250	250	230	240	220	230	200	240	200
Beryllium, total	ug/L	4		2	1*	--		--						--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--		--						--	--	--	--	--	--	--	--
Calcium, total	ug/L					85500	81900	84600	82500	79300	82400	87500J	92800	90000	85900	91100	90300	85100	81500	89000	83300
Chromium, total	ug/L	100				--		--													
Cobalt, total	ug/L					--		--													
Copper, total	ug/L	**	1000			--		--						--	--	--	--	--	--	--	--
Iron, total	ug/L		300			4300	1400	3500	1400	1200	1300	1200J	1900J	1600	1700	1100	1200	1200	1000	1200	1400
Iron, Ferrous	ug/L					--	--	1100	1240	1110	1060	980	1460	1720	1580	870	1100	1110	1290	1210	1210
Lead, total	ug/L	**				--		--													
Magnesium, total	ug/L					34800	33500	35500	34700	34000	34400	36900	39200	37300	33800	37000	36900	35300	35300	38000J+	33700
Manganese, total	ug/L		50			--	490	--	500	--	430	490	560	530	460	480	470	520	460	490	450
Mercury, total	ug/L	2		2		--		--													
Nickel, total	ug/L					--		--													
Potassium, total	ug/L					3600	2500	3200	2800	2700	2600	2700	2700	3200	2900	3000	2600	2500	1900	2400	2500
Selenium, total	ug/L	50				--		--						--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					33400	32600	32400	32100	30600	28600	31000	33400	29600	29000	34800	30800	29000	29900	30000	28300
Strontium	ug/L					--	740J	--	860	--	700	720	900J	680	840	930	950	700	750	1000	750
Thallium, total	ug/L	2				--		--													
Vanadium, total	ug/L					--		--						--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--		--													

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW16B (cont'd)															
						5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13	11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	170	190	130	--	--	--	160	--
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	5.1	5.6	6.0	7.6	8.0	7.5	6.1	6.7	6.9	[11]	7.7	7.4	7.2	[11]	[11]	6.5
Barium, total	ug/L	2000				210	200	204	207	201	185	200	200	220	200	220	200	210	240	210	200
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					80900	79600	86300	92800	88200	81500	83100	88000	87200	80600	80300	83600	76800	87700	81100	85600
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			1100	1200	1420	2240	1930	1820	1400	1700	1800	2300	1600	1700	1400	2500	2200	1700
Iron, Ferrous	ug/L					910	1270	1350	1090	810	810	1200	1400	1380	1500	750	1300	840	1650	1140	2130
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					33300	32900	35400	38400	36100	34600	37200	36300	36600	33200	34200	33200	34300	36300	34000	35000
Manganese, total	ug/L		50			460	420	421	381	350	359	420	400	430	410	470	400	440	450	410	390
Mercury, total	ug/L	2			2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					2200	2200	2230	2790	2530	2810	2500	2400	2300	2500	2400	2600	2200	2900	2400	2600
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					27700	27800	35300	47000	42000	40400	41100	34700	34000	38100	40800	41900	35700	38000	40800	40600
Strontium	ug/L					920	800	838	772	656	710	830	740	850	780	920	820	670	760	780	680
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW17A															
						5/00	5/00 Dup.	8/00	8/00 Dup.	11/00	2/01	2/01 Dup.	5/01	8/01	11/01	11/01 Dup.	2/02	5/02	8/02	11/02	5/03
Aluminum, total	ug/L		50-200			120	250	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	--	1.2	--	--	--	--	--	--	--	--	--	--	--	--	1.5	--
Barium, total	ug/L	2000				430	430	--	--	380	--	--	360	--	360	370	--	330	--	320	390
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					180000	182000	133000	131000	140000	158000	154000	168000	145000	154000	159000	149000	156000	184000	152000	238000J
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			15000	15100	10200	10000	9600	12000	11700	11500	9700	9700	10000	9300	9300	3400	9200	13900J
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	3100	3380	1410	1030
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					41300	41700	34500	33900	40600	40800	39800	37900	36600	40400	41700	38500	37000	28800	39100	52000
Manganese, total	ug/L		50			420	420	--	--	380	--	--	520	--	390	400	--	380	--	400	570
Mercury, total	ug/L	2			2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					14100	14400	16700	16500	17000	13100	12800	12500	14800	12600	12400	12200	10900	5800	12200	9500
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					49600	50000	71500 J	70800 J	67500	42700	41800	34600	62800	52800	54300	52000	47700	24600	56500	24600
Strontium	ug/L					780	780	--	--	700J	--	--	710	--	670J	660J	--	790	--	630	960
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW17A (cont'd)															
						11/03	5/04	5/04 Dup.	11/04	5/05	5/05 Dup.	11/05	5/06	11/06	5/07	5/07 Dup.	11/07	5/08	11/08	5/09	11/09
Aluminum, total	ug/L	6	50-200									150						120			
Antimony, total	ug/L				10/5																
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	1.9	1.3	1.3				1.2	1.0		1.0	1.0	1.1	1.1	1.0	1.5	
Barium, total	ug/L	2000				270	270	280	260	240	240	210	250	260	230	220	250	240	230	228	
Beryllium, total	ug/L	4		2	1*																
Cadmium, total	ug/L	5																			
Calcium, total	ug/L					145000	167000	169000	142000	154000	152000	131000	154000	146000	127000	124000	143000	148000	128000	146000	
Chromium, total	ug/L	100																			
Cobalt, total	ug/L																				
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300			6900J	8600	8500	7200	6800	6800	6600	10300	6300	6300	6200	7100	7200	6000	6770	
Iron, Ferrous	ug/L					2230	1350	--	6200	1340	--	2120	3160	2700	--	--	1660	1980	1930	1800	
Lead, total	ug/L	**																			
Magnesium, total	ug/L					39100	45500	45900	41000	43500	42900	35800	43300	43000	38200J+	37600J+	38800	39800	36900	38400	
Manganese, total	ug/L		50			360	450	460	410	380	380	370	420	360	310	300	400	360	340	388	
Mercury, total	ug/L	2			2																
Nickel, total	ug/L																				
Potassium, total	ug/L					11700	11700	11500	11900	10100	10000	9900	9500	10500	8300	8100	9700	8300	8800	6900	
Selenium, total	ug/L	50																			
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Sodium, total	ug/L					59500	54300	54600	63300	43600	43700	38600	45000	48200	41400	40500	46900	41100	50400	33800	
Strontium	ug/L					690J	1200	1500	660	680	710	650	580	570	560	590	600	620	600	615	
Thallium, total	ug/L	2																			
Vanadium, total	ug/L						--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, total	ug/L		5000																		

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HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW17A (cont'd)											
						5/10	11/10	5/11	10/11	5/12	11/12	5/13	11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L	6	50-200		10/5	--	105	--	--	250	320	790	--	--	190	--	--
Antimony, total	ug/L	50/10 <sup>4</sup>		4	50	1.1	1.3	1.3	2.3	2.1	2.1	1.5	1.6	1.2	1.5	--	1.4
Arsenic, total	ug/L	2000				267	292	250	280	260	270	250	290	260	240	240	260
Barium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L					166000	156000	146000	134000	136000	141000	143000	154000	134000	113000	109000	131000
Calcium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--
Chromium, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L		300			8290	7290	6100	6200	6900	6600	8000	6700	6300	5300	5100	5600
Iron, total	ug/L					2370	1210	1570	2860	4940	3270	3120	2260	2230	4560	6000	5300
Iron, Ferrous	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--
Lead, total	ug/L					46500	44100	42300	42600	40700	42000	42000	46300	42300	36100	33100	40500
Magnesium, total	ug/L		50			403	430	390	370	410	450	500	440	400	370	350	440
Manganese, total	ug/L	2			2	--	0.2	--	--	--	--	--	--	--	--	--	--
Mercury, total	ug/L					7380	8650	7300	10000	8000	9900	7000	10100	8400	9300	7400	8900
Nickel, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L		100			31600	46600	36200	54400	50800	57600	30800	60800	52900	54400	26100	56600
Selenium, total	ug/L					556	647	660	610	620	580	790	660	530	540	590	600
Silver, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--
Strontium	ug/L					--	--	--	--	--	--	--	--	--	--	--	--
Thallium, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--

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\* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L. The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.



**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW17B															
						5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05
Aluminum, total	ug/L		50-200			220	--		--		--		--		--						
Antimony, total	ug/L	6			10/5		--				--										
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	1.8		2.3	1.9	1.8		2.0	2.0		1.8	2.5	1.9	3.0	2.0	2.6	2.5
Barium, total	ug/L	2000				330	--	280	--	280	--	300	--		310	--	310	320	330	320	330
Beryllium, total	ug/L	4		2	1*						--										
Cadmium, total	ug/L	5									--										
Calcium, total	ug/L					105000	87400	97300	89900	93400	95900	94600	94600	92400	94800	98200	99800J	103000	99000	95100	99000
Chromium, total	ug/L	100									--										
Cobalt, total	ug/L										--										
Copper, total	ug/L	**	1000					58	--		--									--	--
Iron, total	ug/L		300			1500	1200	1400	1300	1300	1300	1300	1400		1300	1400	1400J	1500J	1400	1300	1300
Iron, Ferrous	ug/L					--		--		--	--	--		1132	1350	1410	1070	1440	1230	1340	1360
Lead, total	ug/L	**						--	--	--	--	--	--								
Magnesium, total	ug/L					36800	30400	34300	31800	33000	33800	33600	33600	32300	34400	35200	35000	36900	34600	33400	34100
Manganese, total	ug/L		50			75	--	72	--	70	--	72	--	72	--	74	74	81	75	73	73
Mercury, total	ug/L	2			2						--										
Nickel, total	ug/L										--										
Potassium, total	ug/L					6400	5700	5700	5500	5700	6100	5700	5600	5800	5700	5600	5900	6200	6000	6000	6200
Selenium, total	ug/L	50								8	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					29500	25500 J	27000	27000	27500	29500	28900	27600	27900	27100	26400	30700	31600	33100	36500	37800
Strontium	ug/L					260	--	270J	--	260	--	280J	--	330	--	300	300	300J	580	320	290
Thallium, total	ug/L	2									--										
Vanadium, total	ug/L										--										
Zinc, total	ug/L		5000			260	--	33	--		--										

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW17B (cont'd)															
						11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	1.9	2.2	2.2	2.2	2.0	1.9	2.2	2.2	2.2	2.0	2.4	2.3	2.7	2.3	2.5	2.2
Barium, total	ug/L	2000				340	330	350	340	320	300	280	268	267	274	286	310	320	320	300	260
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					104000	104000	109000	101000	100000	94800	92000	86100	87600	90600	92400	99900	105000	103000	105000	85300
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			1400	1600	1500	1400	1400	1300	1500	1320	1300	1340	1530	1600	1600	1600	1600	1400
Iron, Ferrous	ug/L					1480	1460	1450	--	960	1380	1110	1250	780	1020	560	880	1200	1420	1550	1370
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					36300	38700	38700	37200J+	35700	33600	33400	30900	31800	32000	33200	39200	39000	38900	38400	32700
Manganese, total	ug/L		50			75	81	80	78	77	72	71	66.7	68.8	69.6	72	85	83	84	82	72
Mercury, total	ug/L	2			2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					6100	6400	6000	5700	5500	5400	5200	4920	4890	5040	4870	5100	5000	4500	4700	4300
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					36800	36300	33400	32300	32100	31300	29600	28200	29800	30100	29900	30300	30000	29300	29400J-	28300
Strontium	ug/L					320	260	280	300	310	310	320	288	310	234	279	350	340	340	310	360
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW17B (cont'd)						
						11/13	5/14	5/14 Dup.	11/14	5/15	5/15 Dup.	11/15
Aluminum, total	ug/L		50-200									
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	2.6	2.3	2.4	2.1	2.5	2.5	3.1
Barium, total	ug/L	2000				270	240	240	240	250	240	240
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--
Calcium, total	ug/L					89700	81400	82800	78800	86200	84200	82200
Chromium, total	ug/L	100										
Cobalt, total	ug/L					--	--	--	--	--	--	--
Copper, total	ug/L	**	1000									
Iron, total	ug/L		300			1400	1300	1400	1300	1500	1400	1600
Iron, Ferrous	ug/L					1290	1070	1110	1190	1450	1420	860
Lead, total	ug/L	**										
Magnesium, total	ug/L					33500	29800	30200	29700	31900	31100	30100
Manganese, total	ug/L		50			73	65	66	68	71	69	70
Mercury, total	ug/L	2			2							
Nickel, total	ug/L											
Potassium, total	ug/L					4400	4200	4300	4200	4200	4100	4300
Selenium, total	ug/L	50										
Silver, total	ug/L		100			--	--	--	--	--	--	--
Sodium, total	ug/L					32600	31100	31500	31300	32900	32100	33000
Strontium	ug/L					290	220	220	250	250	250	240
Thallium, total	ug/L	2										
Vanadium, total	ug/L					--	--	--	--	--	--	--
Zinc, total	ug/L		5000									

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW18A															
						5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	11/02 Dup	5/03	11/03	5/04	11/04
Aluminum, total	ug/L		50-200			400	--		--		--		--		--		--				
Antimony, total	ug/L	6			10/5				--		--		--								
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	1.6	1.9	1.6							1.4	1.4	1.4	3.2	2.6	2.6	
Barium, total	ug/L	2000				370		460	--	370	--	310	--	260	--	280	280	320	340	280	300
Beryllium, total	ug/L	4		2	1*				--		--		--		--		--				
Cadmium, total	ug/L	5							--		--		--		--		--				
Calcium, total	ug/L					190000	192000	201000	181000	184000	194000	181000	183000	159000	129000	170000	171000	180000J	233000	201000	186000
Chromium, total	ug/L	100							--		--		--		--		--				
Cobalt, total	ug/L								--		--		--		--		--				
Copper, total	ug/L	**	1000						--		--		--		--		--				
Iron, total	ug/L		300			3600	4700	7000	5600	5300	5200	4600	5600	2400	7400	2300	2400	7800J	7300J	7300	6300
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	1620	2830	840	--	1350	4820	2460	3130
Lead, total	ug/L	**							--		--		--		--		--				
Magnesium, total	ug/L					31100	31500	32000	28800	29100	30200	27400	28400	24200	35300	26700	26800	28500	38000	34400	33700
Manganese, total	ug/L		50			160		760	--	450	--	590	--	450	--	280	280	240	760	590	420
Mercury, total	ug/L	2			2				--		--		--		--		--				
Nickel, total	ug/L								--		--		--		--		--				
Potassium, total	ug/L					9300	10600	9800	7800	8000	8100	6600	6000	4400	12400	5500	5600	6200	6000	5100	5600
Selenium, total	ug/L	50							--	6.5	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					24400	33300 J	36200	27400	23500	19600	20200	19300	15500	60600	24400	24500	24500	26200	21700	30000
Strontium	ug/L					880		1000J	--	1000	--	970J	--	970	--	790	840	860	1200J	1100	1000
Thallium, total	ug/L	2							--		--		--		--		--				
Vanadium, total	ug/L								--		--		--		--		--				
Zinc, total	ug/L		5000						--		--		--		--		--				

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW18A (cont'd)															
						5/05	11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	3.1	3.4	3.0	2.6	3.1	--	1.8	2.5	2.8	4.3	2.5	4.9	1.1	4.0	2.4	5.2
Barium, total	ug/L	2000				260	280	250	250	230	260	220	240	240	250	255	308	210	300	250	320
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					190000	189000	189000	193000	171000	159000	172000	167000	159000	152000	168000	173000	155000	195000	170000	182000
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			4500	5200	6500	3400	5200	7400	4800	5400	7200	6440	5490	8020	1600	5900	6200	11000
Iron, Ferrous	ug/L					1520	4720	2280	2000	--	1910	2610	2600	3050	600	1570	900	1400	1930	6200	1570
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					34100	33700	37500	36800	33900+	30200	32700	33200	32700	34000	37100	39400	35200	44500	37800	41200
Manganese, total	ug/L		50			540	350	400	450	410	270	240	290	189	123	192	239	92	180	300	190
Mercury, total	ug/L	2			2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					4600	4800	4900	4900	3700	4700	3600	4400	4450	4600	5280	5870	4200	6700	5300	6700
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					23600	30500	20200	29200	17600	30400	17100	27400	32200	45100	37900	43200	22400	51300	32700	46200
Strontium	ug/L					1000	1100	760	840	930	750	840	950	797	810	700	809	870	960	1100	790
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW18A (cont'd)					
						5/13	11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200								
Antimony, total	ug/L	6			10/5	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	2.7	5.0	3.4	4.3	3.9	4.4
Barium, total	ug/L	2000				270	320	280	300	290	420
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--
Calcium, total	ug/L					153000	184000	160000	161000	172000	169000
Chromium, total	ug/L	100									
Cobalt, total	ug/L					--	--	--	--	--	--
Copper, total	ug/L	**	1000								
Iron, total	ug/L		300			6100	8900	8300	8300	7300	5800
Iron, Ferrous	ug/L					4560	2450	1880	6680	3300	7120
Lead, total	ug/L	**									
Magnesium, total	ug/L					36200	41000	36100	36200	38500	37800
Manganese, total	ug/L		50			150	210	170	210	210	450
Mercury, total	ug/L	2			2						
Nickel, total	ug/L										
Potassium, total	ug/L					5500	7300	5900	6700	6000	7000
Selenium, total	ug/L	50									
Silver, total	ug/L		100			--	--	--	--	--	--
Sodium, total	ug/L					38700	57200	34300	42700	40300	44500
Strontium	ug/L					890	800	630	740	740	760
Thallium, total	ug/L	2									
Vanadium, total	ug/L					--	--	--	--	--	--
Zinc, total	ug/L		5000								

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<sup>1</sup> Risk-based cleanup levels from Powell Road Landfill ROD, Table 21.

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<sup>4</sup> MCL for arsenic changed to 10 ug/L effective 2/22/02.

\* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L. The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW18B															
						5/00	8/00	11/00	2/01	5/01	8/01	11/01	2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	5/05
Aluminum, total	ug/L		50-200			260	--		--		--		--		--						
Antimony, total	ug/L	6			10/5																
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	2.1	4.4	3.5	3.6	3.8	3.2	4.1	3.7	3.9	3.9	4.0	4.0	4.8	4.0	5.1	5.0
Barium, total	ug/L	2000				200	--	180	--	170	--	190	--	190	--	180	190	190	190	190	190
Beryllium, total	ug/L	4		2	1*																
Cadmium, total	ug/L	5																			
Calcium, total	ug/L					113000	100000	104000	102000	94800	99500	102000	102000	96100	96900	98700	98500J	98400	99000	96200	98200
Chromium, total	ug/L	100																			
Cobalt, total	ug/L																				
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300			3400	3300	2900	2900	2600	2700	2700	2700	2600	2500	2500	2500J	2600J	2600	2500	2400
Iron, Ferrous	ug/L					--	--	--	--	--	--	--	--	2340	2230	1680	1670	2270	1730	2510	2370
Lead, total	ug/L	**																			
Magnesium, total	ug/L					43400	37800	38800	39100	36000	37800	38600	39000	36500	38100	38500	37300	37100	37300	36100	36300
Manganese, total	ug/L		50			72	--	61	--	57	--	61	--	59	--	60	60	60	62	61	59
Mercury, total	ug/L	2			2																
Nickel, total	ug/L																				
Potassium, total	ug/L					2000	2000	1900	2000	2100	2400	2300	2300	2300	2300	2200	2400	2500	2500	2400	2400
Selenium, total	ug/L	50								9.7	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					20900	18400	19600	20000	19100	20800	20600	20200	21000	20900	20000	22500	23400	22600	21900	21600J
Strontium	ug/L					1000	--	1000J	--	910	--	980J	--	1100	--	910	950	920J	1000	1100	1000
Thallium, total	ug/L	2																			
Vanadium, total	ug/L																				
Zinc, total	ug/L		5000																		

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The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW18B (cont'd)															
						11/05	5/06	11/06	5/07	11/07	5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	106	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	4.0	3.8	4.0	3.9	4.2	3.6	3.8	4.1	4.3	4.1	4.1	3.7	5.0	4.1	4.1	4.2
Barium, total	ug/L	2000				200	200	210	220	200	200	200	212	209	213	215	210	230	230	220	220
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					102000	99900	105000	102000	98700	101000	100000	103000	101000	101000	98900	92500	98700	93000	98300	89300
Chromium, total	ug/L	100																			
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000																		
Iron, total	ug/L		300			2500	2700	2600	2600	2500	2500	2600	2600	2580	2590	2640	2200	3000	2500	2500	2400
Iron, Ferrous	ug/L					1330	2410	1940	--	1380	2430	1440	2500	1260	1130	1370	1280	1820	2530	1620	2000
Lead, total	ug/L	**																			
Magnesium, total	ug/L					37500	39400	39200	39800J <sup>3</sup>	36100	37800	38300	38800	38800	37700	37600	37700	38500	36500	36900	35300
Manganese, total	ug/L		50			59	64	63	64	60	61	62	63.9	63.8	62.2	58.8	66	69	61	61	59
Mercury, total	ug/L	2			2																
Nickel, total	ug/L																				
Potassium, total	ug/L					2400	2600	2500	2600	2500	2500	2600	2600	2600	2720	2630	2800	2900	2600	2900	2900
Selenium, total	ug/L	50																			
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					22800	22700	24300	24800	24000	24300	25500	27200	27700	28800	30200	29800	30700	28500	30400J <sup>3</sup>	30100
Strontium	ug/L					1100	780	870	1000	920	970	1000	937	1040	810	905	980	910	1400	890	1100
Thallium, total	ug/L	2																			
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000																		

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW18B (cont'd)				
						11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200							
Antimony, total	ug/L	6		10/5		--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	4.7	4.1	4.2	4.4	4.2
Barium, total	ug/L	2000				260	210	220	220	220
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--
Calcium, total	ug/L					108000	88900	91800	96000	93300
Chromium, total	ug/L	100								
Cobalt, total	ug/L					--	--	--	--	--
Copper, total	ug/L	**	1000							
Iron, total	ug/L		300			2800	2300	2400	2600	2400
Iron, Ferrous	ug/L					2330	2250	2650	2370	2520
Lead, total	ug/L	**								
Magnesium, total	ug/L					40600	34100	35100	36800	35500
Manganese, total	ug/L		50			68	56	61	63	60
Mercury, total	ug/L	2			2					
Nickel, total	ug/L									
Potassium, total	ug/L					3000	2900	2900	2800	3000
Selenium, total	ug/L	50								
Silver, total	ug/L		100			--	--	--	--	--
Sodium, total	ug/L					35100	28800	30200	30800	31400
Strontium	ug/L					980	740	870	870	790
Thallium, total	ug/L	2								
Vanadium, total	ug/L					--	--	--	--	--
Zinc, total	ug/L		5000							

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW19A															
						2/02	5/02	8/02	11/02	5/03	11/03	5/04	11/04	3/05	5/05	11/05	5/06	11/06	5/07	11/07	5/08
Aluminum, total	ug/L		50-200			--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6		10/5		--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	11	[10]	[16]	[15]		[12]	[16]	[20]	[21]	[16]	3.0	[14]	[11]	[13]	[17]	10
Barium, total	ug/L	2000				--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium, total	ug/L	4		2	1*	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					129000	124000	111000	117000	95600J	136000	133000	121000		141000	118000	151000	142000	111000	104000	133000
Chromium, total	ug/L	100				--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			6600	8100	7600	7500	81J	7400J	8900	7400		8000	1400	9100	9600	7000	6600	7400
Iron, Ferrous	ug/L					--	9960	6440	2190		1540	1810	2730		1560	1280	1700	1900	--	1900	--
Lead, total	ug/L	**				--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					40000	40500	37900	38800	22000	40400	42200	39400		46400	29800	45400	35600	37800J+	36600	40900
Manganese, total	ug/L		50			--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, total	ug/L	2		2		--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					12400	11700	12200	11600	4600	10900	10300	10600		11400	6200	8800	8600	9000	8300	8400
Selenium, total	ug/L	50				--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					44900	49100	51800	50300	16200	51600	52800	51000		48500	27700	47600	48300	44700	42900	42500
Strontium	ug/L					--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium, total	ug/L	2				--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--		--	--	--	--	--	--	--	--	--	--	--	--	--	--

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW 19A (conf'd)														
						11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/12	5/13	11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6			10/5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>3</sup>		4	50	[12]	2.7	[11.6]	[15.1]	[16.9]	8.1	7.5	[11]	[16]	5.8	7.2	[11]	[12]	6.1	3.9
Barium, total	ug/L	2000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					110000	132000	113000	149000	139000	136000	132000	130000	131000	134000	137000	121000	130000	134000	139000
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			6600	1660	6760	8100	8460	7300	5000	8300	8400	5400	5300	6700	8700	6100	2500
Iron, Ferrous	ug/L					1150	2560	1990	1490	920	1910	5900	5380	3170	3740	1940	2750	6640	3960	2300
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					36800	40100	38000	48000	46400	46600	44200	42000	44900	43200	39500	37100	43600	42400	41400
Manganese, total	ug/L		50			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, total	ug/L	2			2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					8500	7500	12800	10100	10300	9600	11900	9300	11100	8000	11000	9000	12800	8500	11000
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					43100	38200	39400	34500	46400	36600	47500	52400	58200	32600	55100	45100	63600	38100	55900
Strontium	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW20A															
						2/02	5/02	8/02	8/02 Dup.	11/02	5/03	11/03	5/04	11/04	3/05	5/05	11/05	5/06	11/06	5/07	11/07
Aluminum, total	ug/L	6	50-200			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L			10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	9.7	8.3	9.5	8.8	[13]	8.9	[12]	9.3	[15]	[12]	[12]	[13]	8.3	9.8	8.6	[14]
Barium, total	ug/L	2000				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium, total	ug/L	4		2	1*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					166000	155000	154000	155000	158000	106000J	178000	174000	162000		158000	169000	172000	161000	134000	138000
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			13500	13700	12700	12600	13600	8100J	13000J	14300	11700		11700	11500	12800	30400R	9600	9200
Iron, Ferrous	ug/L						3060	10920		1630	2950	2020	1510	5160		2850	2250	2420	1640		1100
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					36800	36600	37900	38200	35900	22700	38100	42000	36100		40700	39100	40500	126000R	38300J+	35000
Manganese, total	ug/L		50			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, total	ug/L	2		2		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					10200	10100	11000	11000	13200	6800	10000	9500	10100		10300	10900	7200	8100	8500	8200
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	10300	10900	7200	8100	8500	8200
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					35400	41000	44000	44200	48200	23500	42100	51400	51300		47400	50200	35700	728000R	38600	35000
Strontium	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: Blank spaces represent non-detect values.

-- = Dash represents no analysis.

[ ] = indicates values above MCL.

J = Estimated value.

UJ = Estimated nondetection.

<sup>1</sup> Risk-based cleanup levels from Powell Road Landfill ROD, Table 21.

<sup>2</sup> Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

<sup>3</sup> Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

<sup>4</sup> MCL for arsenic changed to 10 ug/L effective 2/22/02.

\* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L. The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

CONTINUED  
ON NEXT PAGE

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	MW20A (cont'd)															
						5/08	11/08	5/09	11/09	5/10	11/10	5/11	10/11	5/12	11/5	5/13	11/13	5/14	11/14	5/15	11/15
Aluminum, total	ug/L		50-200			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, total	ug/L	6		10/5		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50	10	[11]	8.2	[11.1]	8.2	[10.6]	[11.0]J	[12]	[11]	[15]	8.3	[12]	9	10	8.7	[11]
Cadmium, total	ug/L	5				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, total	ug/L					147000	140000	110000	141000	128000	109000	125000	164000	138000	149000	113000	156000	134000	151000	130000	145000
Chromium, total	ug/L	100				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper, total	ug/L	**	1000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron, total	ug/L		300			11000	9400	7290	9530	8000	6410	7900	10400	9600	9400	7800	10000	8800	9400	9000	8700
Iron, Ferrous	ug/L					3090	3210	2700	900	1460	1640	7820	1770	6020	7800	5620	1600	2180	3210	6800	8800
Lead, total	ug/L	**				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, total	ug/L					38300	36100	28300	35800	31100	25700	34800	43000	37300	38900	30900	37700	37300	42200	37000	39000
Manganese, total	ug/L		50			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, total	ug/L	2		2		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, total	ug/L					8100	8800	6240	7970	6260	6030	6100	8300	6900	7800	6000	8300	7100	8600	6700	8300
Selenium, total	ug/L	50				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver, total	ug/L		100			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, total	ug/L					33600	34900	29200	36600	29600	32900	34800	44900	38000	41000	32500	46700	43600	53000	45400	48200
Strontium	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium, total	ug/L	2				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, total	ug/L					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, total	ug/L		5000			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: Blank spaces represent non-detect values.

-- = Dash represents no analysis.

[ ] = indicates values above MCL.

J = Estimated value.

UJ = Estimated nondetection.

<sup>1</sup> Risk-based cleanup levels from Powell Road Landfill ROD, Table 21.

<sup>2</sup> Chemical specific Applicable or Relevant and Appropriate

Requirements, Powell Road Landfill ROD, Table 22.

<sup>3</sup> Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

<sup>4</sup> MCL for arsenic changed to 10 ug/L effective 2/22/02.

\* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L.

The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	P859										P862				
						2/95	5/95	5/95 Dup.	7-8/95	12/95	12/95 Dup.	5/96	11/96	5/97	11/97	2/95	2/95 Dup.	2/95 Dup.	5/95	7-8/95
Aluminum, total	ug/L		50-200							--	--									
Antimony, total	ug/L	6			10/5															
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50				2.4											
Barium, total	ug/L	2000				361.0	375	389	428							144.0	140.0	140.0	148	185
Beryllium, total	ug/L	4		2	1*															
Cadmium, total	ug/L	5																		
Calcium, total	ug/L					92000	93400	96600	108000							81100	78500	78500	83700	90600
Chromium, total	ug/L	100																		
Cobalt, total	ug/L																			
Copper, total	ug/L	**	1000																	
Iron, total	ug/L		300			2150	2190	2260	2530							398.0	401.0	401.0	1580	12800
Iron, Ferrous	ug/L					--	--	--	--							--	--	--	--	--
Lead, total	ug/L	**							3.2 J											
Magnesium, total	ug/L					36800	36900	38100	42000							33000	31900	31900	34600	35200
Manganese, total	ug/L		50			53.8	54.9	56.7	63.6											
Mercury, total	ug/L	2			2				0.18											
Nickel, total	ug/L																			
Potassium, total	ug/L					1660										2460	2420	2420	2170	3670
Selenium, total	ug/L	50																		
Silver, total	ug/L		100																	
Sodium, total	ug/L					10400	11200	11600	12900							34700	33500	33500	31300	43600
Strontium	ug/L					--	--	--	--							--	--	--	--	--
Thallium, total	ug/L	2																		
Vanadium, total	ug/L																			
Zinc, total	ug/L		5000			59.5	65.6	64.2	100											28.4

Note: Blank spaces represent non-detect values.

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UJ = Estimated nondetection.

<sup>1</sup> Risk-based cleanup levels from Powell Road Landfill ROD, Table 21.

<sup>2</sup> Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

<sup>3</sup> Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

<sup>4</sup> MCL for arsenic changed to 10 ug/L effective 2/22/02.

\* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L. The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-2.  
METALS RESULTS  
POWELL ROAD LANDFILL  
HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	10 <sup>-4</sup> Risk <sup>1</sup>	ARARS <sup>2</sup>	P865							P868			P869							
						2/95	5/95	7-8/95	12/95	5/96	11/96	5/97	11/97	2/95	5/95	7-8/95	5/95	7-8/95	12/95	5/96	11/96	5/97	11/97
Aluminum, total	ug/L		50-200						--	--	--	--	--								--	--	--
Antimony, total	ug/L	6			10/5					--	--	--	--								--	--	--
Arsenic, total	ug/L	50/10 <sup>4</sup>		4	50			3.8	2.5												--	--	--
Barium, total	ug/L	2000				245.0	239	261						92.7		103	103	75.2			--	--	--
Beryllium, total	ug/L	4		2	1*																--	--	--
Cadmium, total	ug/L	5																			--	--	--
Calcium, total	ug/L					96300	94600	107000						95000	77800	83200	72800	52400			--	--	--
Chromium, total	ug/L	100																			--	--	--
Cobalt, total	ug/L																				--	--	--
Copper, total	ug/L	**	1000															27.2			--	--	--
Iron, total	ug/L		300			2600	3060	2940								183	640	702			--	--	--
Iron, Ferrous	ug/L					--	--	--						--	--	--	--	--			--	--	--
Lead, total	ug/L	**																			--	--	--
Magnesium, total	ug/L					38900	37200	41300						31100	28600	30000	35000	20800			--	--	--
Manganese, total	ug/L		50			50.5	55.1	58.1									28.0	25.6			--	--	--
Mercury, total	ug/L	2			2			0.11									3.0				--	--	--
Nickel, total	ug/L																				--	--	--
Potassium, total	ug/L					1550								2070	2400	3010	2620				--	--	--
Selenium, total	ug/L	50															1.3				--	--	--
Silver, total	ug/L		100														2.7	3.3			--	--	--
Sodium, total	ug/L					13000	12600	14200						39400	51800	45100	63400	102000			--	--	--
Strontium	ug/L					--	--	--						--	--	--	--	--			--	--	--
Thallium, total	ug/L	2																			--	--	--
Vanadium, total	ug/L																				--	--	--
Zinc, total	ug/L		5000			555.0	1610	1140						52.3	50.6	60					--	--	--

Note: Blank spaces represent non-detect values.

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<sup>1</sup> Risk-based cleanup levels from Powell Road Landfill ROD, Table 21.

<sup>2</sup> Chemical specific Applicable or Relevant and Appropriate Requirements, Powell Road Landfill ROD, Table 22.

<sup>3</sup> Samples associated with pumping test of MW16A. First result is prior to pumping, second is post pumping and third is post pumping duplicate.

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\* MCL listed on Table 22 of the ROD for Beryllium is listed as 1 ug/L. The current MCL is 4 ug/L.

\*\* Action level at tap for copper is 1,300 ug/L; at tap for lead is 15 ug/L.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW02A										
				Feb-95	May-95	Aug-95	Aug-95 dup.	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98	May-99
Alkalinity	mg/l													447J
Ammonia ( as N)	mg/l			0.55										0.491
Biological Oxygen Demand	mg/l			<5										
Chemical Oxygen Demand	mg/l			<20										
Chloride	mg/l		250	27										17
Cyanide	ug/l	200		<0.75	<1.4	<1.4J	<1.4J							
Dissolved Oxygen	mg/l													0.06
Nitrate	mg/l	10												
Nitrate + Nitrite	mg/l	10		<0.05										<0.1R
Oil and Grease	mg/l			<5.2										
Ortho-Phosphate (Total)	mg/l			<0.02										
Oxidation Reduction Potential	mV													4
Phosphorus (Total)	mg/l													
pH	S.U.		6.5-8.5	6.75	7.22	6.76		7.04	6.87	6.92	6.97	6.95	7.07	6.98
Specific Conductance	um/cm			720	1460	1303		954	780	823	910	921	1037	807
Sulfate	mg/l		250	46										45.9
Sulfide	mg/l													
Total Dissolved Solids	mg/l		500	650										
Dissolved Organic Carbon	mg/l													2.3
Total Organic Carbon	mg/l			3										2.3
Total Suspended Solids	mg/l			<10										
Ethane	ug/l													<16
Ethene	ug/l													<15
Methane	ug/l													870

*E = Concentration exceeded the calibration range  
of the instrument.*

*D = Analytical result after sample dilution.*



**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW02AR																			
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06		
Alkalinity	mg/l	200	250	578	533	418	376	363	412	465	341	371	408	369	317	436	387	370	284	369	317		
Ammonia ( as N)	mg/l			0.13	0.11	0.075	<0.020	0.027	<0.020	<0.020	0.025	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.090	<0.020	0.050	<0.020	
Biological Oxygen Demand	mg/l																						
Chemical Oxygen Demand	mg/l					<10		<10		<10		<10		<10		<10		<10		<10	<10	<10	
Chloride	mg/l					21.6	31.3	38.8	37.8	33.2	29.8	30.2	22.3	25.1	28.8	27.8	34.6	20.9	16.0	24.7	15.9	32.2	17.6
Cyanide	ug/l					<0.02		<0.02		<0.02		<0.02		<0.02		<0.02	<0.02	<0.02					
Dissolved Oxygen	mg/l						0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.86R	0.10	0.3	0.2	0.0	0.06	2.9R	0.64	0.17	0.49
Nitrate	mg/l						<0.050		0.18		0.24		1.0		<0.050								
Nitrate + Nitrite	mg/l					1		<0.05		0.21		0.22		1.5		<0.050	<0.050	<0.050	0.24	<0.050	0.58	<0.050	0.72
Oil and Grease	mg/l					<5		<5		<5		<5		<5		<5	<5	<5					
Ortho-Phosphate (Total)	mg/l																						
Oxidation Reduction Potential	mV						-18	-7	27	7	12	28	82	159	-350R	-41.1	38.6	11.2	12.2	50.4	25.8	20.9	10.9
Phosphorus (Total)	mg/l					<0.02		<0.02		0.022		<0.01		<0.01		0.011	0.010	<0.01	<0.01	0.012	0.017	<0.010	0.012
pH	S.U.					6.43	6.7	6.80	6.90	6.92	6.91	6.83	6.87	6.61	7.05	6.87	6.82	6.90	6.61	6.46	6.61	6.91	7.19
Specific Conductance	um/cm					1186	1230	1190	989	965	926	938	1170	1180	1044	941	1140	1170	1208	849	1191	1128	1170
Sulfate	mg/l					142	170	189	136	260	201	129	206	209	167	141	232	217	312	255	381	286	310
Sulfide	mg/l					<2	<2.0	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Total Dissolved Solids	mg/l					763		732		850		645		805		601	822	836	859	776	812	751	858
Dissolved Organic Carbon	mg/l					2.4	4.2	1.4	3.7	3.6	4.8	5.8	2.5	3.2	5.1	2.5							
Total Organic Carbon	mg/l					2.2	2.6	<1.0	2.6	3	3.8	3.5	2.1	3.0	3.0	2.1	<1.0	2.9	<1.0	2.2	1.9	3.3	<1.0
Total Suspended Solids	mg/l																						
Ethane	ug/l			<4	<4.0	<4.0	<4.000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<19	<4J	<4	<4	<4		
Ethene	ug/l			<3	<3.0	<3.0	<3.000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<9.8	<3J	<3	<3	<3		
Methane	ug/l			16	260	39	4.5	4	<2	<2	<2	<2	<2	<2	7.6	140	330	3.3J	<2	2.2	<2		

CONTINUED  
ON NEXT PAGE

*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW02AR (cont'd)																				
				Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15		
Alkalinity	mg/l	200	250	326	395	345	375	402	458	420	473	512	374	369	456	417	534	469	534	546	554	584B		
Ammonia ( as N)	mg/l			<0.020	<0.020	0.15	<0.020	0.28	0.050	0.097	0.044	0.123	<0.20	<0.020	0.049	0.066	<0.20	0.051	<0.020	0.032	<0.020	0.110		
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10 UJ	<10	<10	<10	<10	<10	<10	11	<10UJ	<10	13.1	10.3	10.6	10.3	10.3		
Chloride	mg/l			26.9	13.9	30.2	17.2	24.6	29.0	32.6	36.9	35.1	21.2	32.2	19.6	38.8	20.8	25.7	22.0	40.6	30.2	40.0		
Cyanide	ug/l																							
Dissolved Oxygen	mg/l					0.32	0.18	0.34	0.43	0.43	0.11		0.00	0.06	3.49	0.00	0.00	0.00	0.29	0.00	0.00	0.04	0.37	0.01
Nitrate	mg/l			10																				
Nitrate + Nitrite	mg/l			10		0.14	<0.05	<0.050	0.22	<0.050	<0.050	<0.050	<0.050	<0.050	2.1	<0.050	<0.050	<0.050	0.59	<0.050	<0.050	<0.050	0.37	<0.050
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			30.5	8.1	-40.7	1.2	-28.4	114.1	-11.8	72.6	7	89	62	137	-37	36.5	26.5	23.8	76.3	-19.6	-13.8		
Phosphorus (Total)	mg/l			0.081	0.042	<0.010	<0.010	<0.010	<0.010	0.0162	<0.010	<0.010 UJ	<0.010	<0.010	<0.010	0.016	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
pH	S.U.		6.5-8.5	6.60	7.03	6.95	6.83	7.05	6.34	6.70	5.43	6.54	7.32	6.89	6.87	6.94	6.87	6.83	6.85	6.62	6.80	6.84		
Specific Conductance	um/cm			977	1008	925	985	887	960	1050	903	1159	891	978	954	1033	1085	1037	1118	1274	1281	1268		
Sulfate	mg/l		250	156	152	130	161	160	180	159	165	156	123 EJ	159	126	164	142	118	92	75.1 J	71.4	60.5		
Sulfide	mg/l																							
Total Dissolved Solids	mg/l		500	598	710	630	602	684	743	621	754	760	599	642	642	592	811	659	630	700	714	657		
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l			1.3	1.5	2.5	1.9	<1.0	1.7	2.5	2.9	2.0	1.7	<1.0	1.3	2.0	1.9	1.4	1.2	1.1	2.6	2.1		
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<7.5	<15	<15	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4		
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<7.5	<15	<15	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3		
Methane	ug/l			<2	120	13	<2	<2	3.6	11	32	51	<2	3.5	54	19	<2	87	46	41	37	56		

*E = Concentration exceeded the calibration range  
of the instrument.*

*D = Analytical result after sample dilution.*

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW02B																	
				Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05
Alkalinity	mg/l				342J	330	318	323	343	344	343	317	284	294	271	279	237	289	345	302	247
Ammonia ( as N)	mg/l				0.129	0.03	<0.020	<0.020	<0.020	0.03	<0.020	0.055	<0.02	<0.02	<0.020	<0.020	<0.020	<0.020	<0.020	0.10	0.04
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l					<10		<10		<10		<10		<10		<10	<10	16.7	<10	<10	
Chloride	mg/l		250		35.9	38.7	35.6	38.4	37.8	36.3	40.6	41.5	43.0	44.3	45.4	42.5	53.7	40.8	43.5	45.1	43.1
Cyanide	ug/l	200				<0.02		<0.02		<0.02		<0.02		<0.02		<0.02	<0.02	<0.02			
Dissolved Oxygen	mg/l				0.09			0.00	0.00	0.00	0.00	0.00	0.00	0.00R	0.05	0.20	0.20	0.0	0.04	1.7R	0.14
Nitrate	mg/l	10					<0.050		<0.050		<0.050		<0.05		<0.050						
Nitrate + Nitrite	mg/l	10			<0.1R	<0.05		<0.05		<0.05		<0.05		<0.05		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l					<5		<5		<5		<5		<5		<5	<5	<5			
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV				-72		-109	-142	-143	-148	-128	-153	-108	-115	-311R	-55.0	-120.4	-99.6	-100.8	-103.8	-158.9
Phosphorus (Total)	mg/l					0.06		0.055		0.039		0.052		<0.01		0.022	0.047	<0.01	<0.01	0.067	<0.010
pH	S.U.		6.5-8.5	7.64	7.42	6.91	7.13	7.14	6.85	7.24	6.97	7.12	7.04	6.90	7.20	7.11	7.05	7.54	6.97	7.03	6.81
Specific Conductance	um/cm			761	720	758	949	781	696	663	683	708	806	831	744	737	814	738	804	631	787
Sulfate	mg/l		250		44.6	59.5	51	54.6	53.7	51.3	60.3	65.9	70.4	68.8	67.7	65.0	90.3	60.9	61.9	63.8	64.2
Sulfide	mg/l					<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0			
Total Dissolved Solids	mg/l		500			454		454		453		436		478		427	479	444	476	493	416
Dissolved Organic Carbon	mg/l				<1	1.4	5.7	1.4	3	2.2	2.5	2.8	1.3	2.0	2.5	1.0					
Total Organic Carbon	mg/l				<1	1	<1.0	<1	1.6	1.8	2.5	2.6	1.6	2.2	1.9	1.3	<1.0	1.1	<1.0	1.1	<1.0
Total Suspended Solids	mg/l																				
Ethane	ug/l				<16	<4	<4	<4.0	<4.000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4J	<4
Ethene	ug/l				<15	<3	<3	<3.0	<3.000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3J	<3
Methane	ug/l				<8.6	88	12	<2.0	17	7.4	7.4	3.6	<2	<2	<2	<2	<2	<2	18	<2J	5.7

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ON NEXT PAGE

E = Concentration exceeded the calibration range  
of the instrument.

D = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW02B (cont'd)																				
				Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15
Alkalinity	mg/l			285	237	286	301	278	302	269	342	252	297	325	314	274	287	314	316	301	309	278B	235	310B
Ammonia ( as N)	mg/l			<0.020	0.039	0.021	<0.020	0.033	0.100	0.090	0.033	0.048	0.028	0.035	<0.020	0.066	<0.020	0.062	0.035	0.047	<0.020	<0.020	0.047	0.040
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10	<10	<10 UJ	<10	<10	<10	<10	<10	<10	<10	<10UJ	<10	<10	16.3	10.9	<10	<10
Chloride	mg/l		250	45.2	38.7	34.9	30.1	33.3	32.1	35.7	38.0	35.6	39.8	45.1	48.7	50.9	49.9	50.2	50.9	40.2	35.4	44.2	39.8	44.1
Cyanide	ug/l	200																						
Dissolved Oxygen	mg/l				0.41	0.24	0.25	0.31	0.22	0.25	0.20		0.00	0.21	0.11	0.02	0.08	0.13	0.09	0.13	0.09	0.10	0.22	0.12
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.058	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			-62.7	-73.5	-66.0	-92.5	-40.9	-97.6	-91.9	-79.4	-98.2	-66.7	-101.0	-100.0	-95	-18	-132	-61	-40.2	-71.2	-63.3	-86.9	-81.8
Phosphorus (Total)	mg/l			0.034	0.071	0.16	0.038	<0.010	<0.010	<0.010	<0.010	0.0686	<0.010	<0.010 UJ	<0.010	0.95	<0.010	0.037	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	S.U.		6.5-8.5	7.25	7.30	7.50	7.02	7.15	7.07	7.26	6.82	6.94	5.82	6.91	7.35	7.17	7.18	7.21	7.23	7.11	7.20	7.12	7.15	7.17
Specific Conductance	um/cm			789	765	764	720	738	699	677	696	784	634	778	794	752	712	802	798	743	831	832	785	872
Sulfate	mg/l		250	71.8	43.7	46.1	44.8	51.3	40.8	42.1	55.0	51.3	47.3	51.8	56.4	60.6	59.3	58.8	65.5	62.9	61.6	62.1	53.8	61.6
Sulfide	mg/l																							
Total Dissolved Solids	mg/l		500	470	442	429	429	374	408	432	463	329	413	483	448	438	393	409	511	449	401	435	435	453
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l			2.5	<1.0	<1.0	<1.0	1.8	<1.0	<1.0	<1.0	1.7	1.5	1.6	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	1.5	1
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			3.7	<2	2.4	4.1	6.2	8.3	<2	2.9	6.1	10	12	15	15	13	18	<2	2.6	2	<2	3.3	6.6

*E = Concentration exceeded the calibration range of the instrument.*

*D = Analytical result after sample dilution.*

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW04A										
				Feb-95	May-95	Aug-95	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98	May-99	5/99 dup.
Alkalinity	mg/l												598J	545J
Ammonia ( as N)	mg/l			8.4									8.93J	9.09
Biological Oxygen Demand	mg/l			8										
Chemical Oxygen Demand	mg/l			24										
Chloride	mg/l		250	83									88.7	91.3
Cyanide	ug/l	200		<2.2	<1.4	<1.4J								
Dissolved Oxygen	mg/l												0.07	
Nitrate	mg/l	10												
Nitrate + Nitrite	mg/l	10		<0.05									0.191J	0.183J
Oil and Grease	mg/l			<5.3										
Ortho-Phosphate (Total)	mg/l			<0.02										
Oxidation Reduction Potential	mV												-125	
Phosphorus (Total)	mg/l													
pH	S.U.		6.5-8.5	6.82	6.99	6.92	6.95	6.85	6.96	6.86	6.99	6.99	6.75	
Specific Conductance	um/cm			1149	1394	1346	1295	1251	1064	1165	1186	1265	1178	
Sulfate	mg/l		250	9.8									47.6	47.5
Sulfide	mg/l													
Total Dissolved Solids	mg/l		500	650										
Dissolved Organic Carbon	mg/l												8	8.2
Total Organic Carbon	mg/l			7									9.3	8.1
Total Suspended Solids	mg/l			30										
Ethane	ug/l												<16	<16
Ethene	ug/l												<15	<15
Methane	ug/l												3800	3800

*E = Concentration exceeded the calibration range  
of the instrument.*

*D = Analytical result after sample dilution.*

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW04AR																	
				May-00	Aug-00	Nov-00	11/00 dup.	Feb-01	May-01	5/01 dup.	Aug-01	8/01 Dup.	Nov-01	Feb-02	May-02	5-02 dup.	Aug-02	Nov-02	May-03	Nov-03	May-04
Alkalinity	mg/l			604	540	845	743	588	477	543	651	622	579	502	472	468	575	504	378	470	448
Ammonia ( as N)	mg/l			11.4	13.7	14.4	15.0	8.9	11.6	11.5	19.2	19.2	16.5	13.5	13.0	12.4	28.2	25.3	6.7	13.5	9.6
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l			32.1		41.5	47.8		20.2	18.9			26.2		33.2	30.0		27.1	<10	11.0	28.9
Chloride	mg/l		250	150	174	204	202	63.4	127	128	155	155	136	120	126	126	165	143	126	133	89.7
Cyanide	ug/l	200		<0.02		<0.02	<0.02		<0.02	<0.02			<0.02		<0.02	<0.02		<0.02	<0.02	<0.02	
Dissolved Oxygen	mg/l				0.00	0.00		0.00	0.00		0.00		0.00	0.00	2.09R		0.04	0.30	0.10	0.0	0.03
Nitrate	mg/l	10			<0.050			0.46			0.13	0.13					<0.050				
Nitrate + Nitrite	mg/l	10		<0.05		<0.05	<0.05		0.20	0.20			0.099	0.14	<0.05	<0.05		0.22	<0.050	<0.050	<0.050
Oil and Grease	mg/l			<5		<5	<5		<5	<5			<5		<5	<5		<5	<5UJ	<5	
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV				-83	-124		-98	-119		-97		-110	-74	-119		-376R	-50.0	-101.5	-94.2	-105.2
Phosphorus (Total)	mg/l			0.08		0.083	0.13		0.039	0.04			0.021		0.046	0.045		0.063	0.051	0.078	<0.01
pH	S.U.		6.5-8.5	6.62	6.65	6.72		6.44	6.67		6.76		6.81	6.72	6.56		6.74	6.74	6.83	7.33	6.60
Specific Conductance	um/cm			1404	1630	1760		1430	1140		1500		1570	1490	1590		1615	1504	1360	1463	1531
Sulfate	mg/l		250	15.9	14	11.4	11.0	83.4	37.2	37.0	41.1	41.2	39.6	37.5	131.0	125.0	51.1	58.0	142.0	81.6	336
Sulfide	mg/l			<2	<2	<2	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Total Dissolved Solids	mg/l		500	821		880	861		829	796			810		623	635		788	767J	832	986
Dissolved Organic Carbon	mg/l			10.2	16.7	14.9	15.3	7.1	10	10.5	13.8	15	13.8	7.9	7.1	7.8	14.6	14.4			
Total Organic Carbon	mg/l			10.1	14	14.9	15.0	7.2	10.4	10.5	13.4	13.3	12.3	8.2	8.8	8.5	12.6	11.7	3.5	8.7	4.9
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4	<4,000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<47	<19
Ethene	ug/l			7.5	7.5	6.7	8.3	<3,000	<3	3.5	13	8.5	<3	<3	<3	<3	<3	<3	<3	<25	<9.8
Methane	ug/l			3200E	4200E 3100D	4000E 4200D	4600E 5600D	680	1100	1200	5300E 5000D	5000E 6300D	3700E 2700D	350	290	300	270	330	170	510	710

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*E* = Concentration exceeded the calibration range  
of the instrument.  
*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW04AR (cont'd)																				
				Nov-04	11/04 Dup.	Mar-05	May-05	Nov-05	11/05-Dup	May-06	5/06-Dup	11/06	11/06-Dup	May-07	Nov-07	11/07 Dup	May-08	Nov-08	11/08 Dup	May-09	5/09 Dup	Nov-09		
Alkalinity	mg/l	200	250	529	438		415	450	503	412	442	467	486	472	458	444	467	537	578	439	436	382		
Ammonia ( as N)	mg/l			17.3	17.7		8.8	9.3	9.1	5.9	5.7	5.2	5.1	7.2	10.0	9.8	6.0	12.5	11.8	7.44	7.63	5.52		
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l				<10	28.0		22.8J	24.8J	23.6J		<10	17.5	19.8	<10	15.2J+	25.3J+	20.7J+	<10	16.7 J-	21.8 J-	11.1	14.2	<10.0
Chloride	mg/l				158	150		92.3	113	104		110	118	96.8	93.3	90.4	125	124	78.9	130	132	48	47	35.8
Cyanide	ug/l																							
Dissolved Oxygen	mg/l					0.12		0.14	0.14	0.13		0.51		0.19		0.13	0.28		0.27	0.37		1.44		
Nitrate	mg/l			10																				
Nitrate + Nitrite	mg/l			10		<0.050	<0.050		<0.050	0.13	0.13	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.32	0.29	0.085
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			-71.5		-124.3	-152.3	-65.3		-69.0		-67.6		-80.4	-127.1		-56.2	-183.3		-99.9		-99.2		
Phosphorus (Total)	mg/l			0.091	0.12		0.095	0.078	0.061	0.099	0.085	0.022	0.044	0.058	0.074	0.061	<0.010	<0.010	<0.010	<0.010	<0.010	0.0162		
pH	S.U.		6.5-8.5	6.69		6.80	6.71	6.83		6.77		7.20		6.74	6.82		6.70	6.94		6.78		6.77		
Specific Conductance	um/cm			1264			1534	1454		1365		1293		1240	1074		1353	1203		1192		1144		
Sulfate	mg/l		250	43.0	42.4		248.0	145.0	133.0	96.7	98.6	117.0	113	127	30.1	24.4	135	10.6	10.9	170	170	222		
Sulfide	mg/l																							
Total Dissolved Solids	mg/l		500	795	803		935	797	801	765	797	814	789	725	682	692	752	741	716	846J+	807J+	748		
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l			10.8	10.7		6.8	6.4	4.5	5.5	5.5	5.0	4.8	5.0	8.6	8.8	6.1	5.2	5.5	4.0	3.9	3.7		
Total Suspended Solids	mg/l																							
Ethane	ug/l			<19	<19		<19	<4	<4	<4	<4	<4	<9.4	<9.0	<4	<4	<4	<4	<4	<150	<30	<15		
Ethene	ug/l			<9.8	<9.8		<9.8	<3	<3	<3	<3	<3	<4.9	<7.5	<3	<3	<3	<3	<3	<150	<30	<15		
Methane	ug/l			140	180		720	37	34	370E 710D	9.8	11	230	520	130	91	1100	420E 470D	410E 340D	160	100	44		

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E = Concentration exceeded the calibration range  
of the instrument.

D = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW04AR (cont'd)																						
				11/09 Dup	May-10	5/10 Dup	Nov-10	Nov-10 Dup	May-11	May-11 Dup	Oct-11	Oct-11 Dup	May-12	May-12 Dup	Nov-12	Nov-12 Dup	May-13	May-13 Dup	Nov-13	Nov-13 Dup	May-14	Nov-14	Nov-14 Dup	May-15	Nov-15	Nov-15 Dup
Alkalinity	mg/l			376	413	418	586	530	373	372	471	459	539	549	502	530	447	480	496	477	573	537	528	464	583B	606B
Ammonia ( as N)	mg/l			5.15	4.83	4.56	12.20	12.90	2.4J-	2.0	3.2	3.2	7.2	7.9	8.6	8.3	4.7	4.2	3.9	3.9	8.6	8.6	8.8	6.7	8.9	8.5
Biological Oxygen Demand	mg/l																									
Chemical Oxygen Demand	mg/l			<10.0	14.9	12.0	16.9	17.3	<10.0	<10	11.1	12.4	10.7	15.2	20.6(J-)	<10	16.8	13.9	15.6	10.5	17.0	24.5	23.2	16.2	15.5	15.2
Chloride	mg/l		250	36.5	62.3	61.6	98.3	98.6	30.8J-	30.6	82.1	82.9	114	96.6	112	105	50.5	53.1	54.4	54.4	96.1	131	126	84.9	129	130
Cyanide	ug/l	200																								
Dissolved Oxygen	mg/l				0.00		0.00		1.53		0.03		0.00		0.00		0.63		0.00		0.02	0.02		0.09	0.00	
Nitrate	mg/l	10																								
Nitrate + Nitrite	mg/l	10		0.084	<0.050	<0.050	<0.050	<0.050	0.700	0.710	0.69	0.67	<0.050	<0.050	0.62	0.62	1.00	1.00	0.31	0.31	0.08	<0.050	<0.050	0.10	<0.050	<0.050
Oil and Grease	mg/l																									
Ortho-Phosphate (Total)	mg/l																									
Oxidation Reduction Potential	mV				-64.4				-41.1		-82		-103		-138.0		-36.8		-29.6		-81.3	-90.4		-66.2	-86.5	
Phosphorus (Total)	mg/l			<0.0100	<0.0100	<0.0100	0.0916	0.0575	<0.010	<0.010	0.29	<0.010	0.035	0.023	0.028	0.016	<0.010	<0.010	<0.010	<0.010	<0.010	0.043	0.033	0.030	0.083	0.049
pH	S.U.		6.5-8.5		6.76		6.64		7.01		6.84		6.69		6.75		6.90		6.79		6.82	6.75		6.84	6.86	
Specific Conductance	um/cm				862		1252				1161		1335		1294		1163		1165		1321	1457		1317	1563	
Sulfate	mg/l	250		227	88.3	87.3	<5.0 R	<5.0 R	66.7J-	67.0	38.8	38.1	18.7	16.2	41.8	38.1	68.4	71.6	77.0	77.2	17.3	8.2	<5	31.2	<5	5.1
Sulfide	mg/l																									
Total Dissolved Solids	mg/l	500		760	623	619	710	701	499	479	644	651	801	732	619	606	745	746	685	698	626	690	680	639	753	754
Dissolved Organic Carbon	mg/l																									
Total Organic Carbon	mg/l			4.1	2.4	2.6	4.9	4.8	2.7	2.9	2.3	2.2	3.5	3.7	5.3	5.3	2.7	2.7	3.5	3.3	5.5	5.4	5.6	4.4	6.6	6.6
Total Suspended Solids	mg/l																									
Ethane	ug/l			<15	<60	<60	<150	<150	<160	<160	<4	<4	<4	<4	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	7.9
Ethene	ug/l			<15	<60	<60	<150	<150	<120	<120	<3	16	<3	<3	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<3
Methane	ug/l			53	260	190	500	1000	190	120	220	390	2200	2200	490	370	<20	<20	150	120	350	320	310	270	2500	2400

*E* = Concentration exceeded the calibration range of the instrument.

*D* = Analytical result after sample dilution.



**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW04BR										
				Feb-95	May-95	Aug-95	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98	May-99	5/99 dup.
Alkalinity	mg/l												327J	332J
Ammonia ( as N)	mg/l												0.402J	0.294
Biological Oxygen Demand	mg/l													
Chemical Oxygen Demand	mg/l													
Chloride	mg/l		250										51.1	52.1
Cyanide	ug/l	200		<0.75	<1.4	<1.4J								
Dissolved Oxygen	mg/l												0.58	
Nitrate	mg/l	10												
Nitrate + Nitrite	mg/l	10											<0.1R	<0.1R
Oil and Grease	mg/l													
Ortho-Phosphate (Total)	mg/l													
Oxidation Reduction Potential	mV												-7	
Phosphorus (Total)	mg/l													
pH	S.U.		6.5-8.5	7.66	7.57	7.55	7.16	7.23	7.04	7.38	7.44	7.28	7.43	
Specific Conductance	um/cm			681	783	756	788	800	753	776	825	764	741	
Sulfate	mg/l		250										44	44.1
Sulfide	mg/l													
Total Dissolved Solids	mg/l		500											
Dissolved Organic Carbon	mg/l												<1	<1
Total Organic Carbon	mg/l												1.6	2.3
Total Suspended Solids	mg/l													
Ethane	ug/l												<16	<16
Ethene	ug/l												<15	<15
Methane	ug/l												80	78

*E = Concentration exceeded the calibration range  
of the instrument.*

*D = Analytical result after sample dilution.*

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW04BRR																	
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06
Alkalinity	mg/l			302	284	308	334	315	320	280	272	284	289	262	226	262	341	206	266	305	225
Ammonia ( as N)	mg/l			0.13	0.12	1.9	0.029	0.14	0.027	0.14	0.085	0.13	0.12	<0.020	0.073	0.046	0.10	0.17	0.17	0.079	0.078
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l			<10		<10		<10		<10		13.0		<10	<10	<10	<10	<10	<10	<10	<10
Chloride	mg/l		250	46.7	48.2	51.1	52	54.7	56.3	60.8	62.8	68.1	63.7	65.9	65.7	51.5	49.4	53.6	51.5	51.3	50.4
Cyanide	ug/l	200		<0.02		<0.02		<0.02		<0.02		<0.02		<0.02	<0.02	<0.02					
Dissolved Oxygen	mg/l				0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.54R	0.03	0.6	0.1	0.0	0.04	0.15	0.16	0.11	0.36
Nitrate	mg/l	10			<0.050		<0.050		<0.050		<0.05		<0.050								
Nitrate + Nitrite	mg/l	10		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050
Oil and Grease	mg/l			<5		<5		<5		<5		<5		<5	<5	<5					
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV				-102	-129	-119	-102	-112	-131	-104	-141	-341R	-52.2	-102.3	-102.6	-102.1	-59.7	-104.9	-89.3	-72.0
Phosphorus (Total)	mg/l			<0.02		<0.02		<0.02		<0.01		<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.010	<0.010	<0.010
pH	S.U.		6.5-8.5	7.08	7.17	7.19	6.78	7.15	7.29	7.28	7.14	6.85	7.17	7.17	7.24	7.56	6.97	6.99	7.11	7.33	7.05
Specific Conductance	um/cm			699	867	759	704	701	684	727	813	862	784	764	774	761	842	650	797	800	773
Sulfate	mg/l		250	47.6	47	45.4	48.0	50.9	52.3	51.7	51.1	51.4	50.1	50.6	62.2	71.7	68.3	49.7	94.7	56.7	53.4
Sulfide	mg/l			<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2	<2.0	<2.0	<2.0	<2.0					
Total Dissolved Solids	mg/l		500	392		418		487		468		389		483	458	456	513	477	458	433	455
Dissolved Organic Carbon	mg/l			1.8	3.4	<1	3	2.4	2.5	2.4	1.2	1.1	2.1	3.6							
Total Organic Carbon	mg/l			<1	1	<1	<1.0	2	2	2.3	<1.0	1.6	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4.000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4.7	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3.000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3.0	<3	<3	<3	<3
Methane	ug/l			6.2	30	180	130	15	29	22	2.5	<2	<2	<2	<2	5.2	55	6.8	18	<2	4.2

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ON NEXT PAGE

*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW04BRR (cont'd)																			
				Nov-06	May-07	Nov-07	May-08	5/08 Dup	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15
Alkalinity	mg/l			219	309	245	291	276	291	288	355	339	370	344	318	503	344	351	371	353	361	319	404B
Ammonia ( as N)	mg/l			0.062	0.032	0.055	0.074	0.190	0.085	0.089	0.072	0.060	0.045	<0.20	0.041	0.038	0.062	0.045	0.041	0.067	0.041	<0.020	0.068
Biological Oxygen Demand	mg/l																						
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10	<10 UJ	<10	<10	<10	<10	<10	<10	<10	<10UJ	<10	<10	<10	<10	<10	<10
Chloride	mg/l		250	2.8R	54.2	54.3	54.9	54.3	51.0	43	45.5	50.1	55.3	59.1J-	62.5	56.3	64.1J	58.3	61.0	52.9	66.7	67.5	66.2
Cyanide	ug/l	200																					
Dissolved Oxygen	mg/l			0.17	0.07	0.32	0.22		0.08	1.51		0.00	0.00	0.27	0.00	0.00	0.00	0.01	0.01	0.04	0.04	0.02	0.02
Nitrate	mg/l	10																					
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l																						
Ortho-Phosphate (Total)	mg/l																						
Oxidation Reduction Potential	mV			-83.8	-90.8	-69.8	-81.2		-79.9	-112.1	-101.4	-55.0	-105.0	-65.3	-93	-77	-113	-64	-39.9	-67.3	-42.5	-73.1	-77.3
Phosphorus (Total)	mg/l			0.093	<0.010	0.058	<0.010	<0.010	<0.010	0.0243	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	S.U.		6.5-8.5	7.75	7.12	7.28	7.11		7.31	7.18	7.09	6.99	7.00	7.21	7.17	7.00	7.12	7.20	7.13	7.07	7.03	7.08	7.15
Specific Conductance	um/cm			781	742	613	777		655	776	825	727	903	920	895	847	851	912	906	977	1022	929	1073
Sulfate	mg/l		250	<5.0R	51.3	49	44.2	44.2	47.9	66.0	62.8	93.7	81.6	90J-	75.5	51.6	56.6J	62.9	56.9	66.3	65.5	42.3	46.9
Sulfide	mg/l																						
Total Dissolved Solids	mg/l		500	506	430	433	388	398	441	529J+	491	552	560	604	501	545	489	541	505	485	534	468	541
Dissolved Organic Carbon	mg/l																						
Total Organic Carbon	mg/l			<1.0	1.2	1.5	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	1.3	1.2	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	1.1	<1.0
Total Suspended Solids	mg/l																						
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<20	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<15	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			2.6	2.2	<2	5.8	4.5	4.4	2.4	16	18	27	22	40	12	14	38	57	31	21	28	130

*E = Concentration exceeded the calibration range of the instrument.*

*D = Analytical result after sample dilution.*

**TABLE M-3.**  
**WET CHEMISTRY ANALYTICAL RESULTS**  
**POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW05A										
				Feb-95	2/95 dup.	May-95	Aug-95	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98	May-99
Alkalinity	mg/l													440J
Ammonia ( as N)	mg/l			2.6										4.85
Biological Oxygen Demand	mg/l			<5										
Chemical Oxygen Demand	mg/l			<20										
Chloride	mg/l		250	72										74
Cyanide	ug/l	200		<0.75	<0.75	<1.4	<1.4J							
Dissolved Oxygen	mg/l													0.16
Nitrate	mg/l	10												
Nitrate + Nitrite	mg/l	10		0.26										<0.1
Oil and Grease	mg/l			<5.1										
Ortho-Phosphate (Total)	mg/l			<0.02										
Oxidation Reduction Potential	mV													28
Phosphorus (Total)	mg/l													
pH	S.U.		6.5-8.5	7.09		7.87	7.46	7.11	7.36	7.11	7.05	7.4	7.42	7.09
Specific Conductance	um/cm			815		981	982	844	1011	786	837	853	935	974
Sulfate	mg/l		250	41										38.1
Sulfide	mg/l													
Total Dissolved Solids	mg/l		500	490										
Dissolved Organic Carbon	mg/l													3.5
Total Organic Carbon	mg/l			2										4.6
Total Suspended Solids	mg/l			<10										
Ethane	ug/l													16
Ethene	ug/l													<15
Methane	ug/l													400

*E = Concentration exceeded the calibration range  
of the instrument.*

*D = Analytical result after sample dilution.*

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW05AR																			
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06		
Alkalinity	mg/l	200	250	314	295	340	336	311	314	298	294	320	348	329	290	323	348	374	332	347	272		
Ammonia ( as N)	mg/l			2.4	1.5	2.7	3	1.7	1.2	1.4	0.79	1.2	1.1	1.6	1.8	1.6	2.0	2.1	1.7	1.8	1.3		
Biological Oxygen Demand	mg/l																						
Chemical Oxygen Demand	mg/l					<10		<10		<10		<10		<10		<10	<10	<10		10.4J	11.7J	<10	
Chloride	mg/l					86.6	122	106	89	107	129	91.2	73.2	97.2	77.9	77.5	117	69.7	88.4	90.8	82.0	75.9	99.3
Cyanide	ug/l					<0.02		<0.02		<0.02		<0.02		<0.02		<0.02	<0.02	<0.02					
Dissolved Oxygen	mg/l						0.00	0.00	0.00	0.00	0.30	0.00	0.00	2.35R	0.26	0.2	0.2	0.0	0.16	0.11	0.12	0.17	0.47
Nitrate	mg/l			10			0.7		0.49		0.43		0.30		0.37								
Nitrate + Nitrite	mg/l			10		0.37		0.16		0.63		0.26		0.33		0.10	0.16	0.28	0.34	0.073	0.33	0.74	0.26
Oil and Grease	mg/l					<5		<5		<5		<5		<5		<5	<5UJ	<5					
Ortho-Phosphate (Total)	mg/l																						
Oxidation Reduction Potential	mV						-71	-100	-67	3	-80	-105	46	-70	-347R	-42.7	-22.1	-71.9	-91.1	-62.6	-42.5	13.7	-8.6
Phosphorus (Total)	mg/l					0.03		0.039		<0.02		<0.01		0.016		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.022	<0.010
pH	S.U.				6.5-8.5	6.86	6.89	7.00	6.76	7.01	7.11	6.97	7.03	6.92	7.04	6.97	6.83	6.73	6.81	7.43	6.83	6.98	7.01
Specific Conductance	um/cm					872	885	1111	892	876	1250	1020	1000	1110	898	962	1126	985	1041	827	1061	995	985
Sulfate	mg/l				250	69.8	65	76.7	93.4	81.9	98.7	115	75.9	91.5	66.2	80.1	131	47.9	40.3	54.8	72.7	90.0	60.8
Sulfide	mg/l					<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0					
Total Dissolved Solids	mg/l				500	502		583		626		617		504		571	668	569	579	652	595	567	581
Dissolved Organic Carbon	mg/l					1.9	4.7	2.1	3.2	3.6	2.9	4.8	2.4	2.2	2.2	2.3							
Total Organic Carbon	mg/l					2	1.1	<1	1.9	2.9	2.3	3.3	2.3	2.9	2.0	1.9	2.1	2.1	1.4	2.1	2.4	2.8	1.1
Total Suspended Solids	mg/l																						
Ethane	ug/l			<4	<4	<4	<4.000	<4	<4	<4	<4	<4	<4	<4	<4	<4.7	<19	<4.7	<4	<4	<4		
Ethene	ug/l			<3	<3	<3	<3.000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<9.8	<3.0	<3	<3	<3		
Methane	ug/l			<2	30	36	19	6.5	27	120	6.2	5.8	4.1	4.6	170	73	270	28	24	4.3	<2		

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*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW05AR (cont'd)																		
				Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15
Alkalinity	mg/l			296	473	310	407	340	313	366	289	373	313	287	317	345	344	330	438	363	348	382
Ammonia ( as N)	mg/l			1.1	2.7	3.2	1.4	1.6	1.59	2.22	0.708	1.730	0.73	0.42	0.44	1.00	0.64	0.42	2.10	1.40	1.40	0.95
Biological Oxygen Demand	mg/l																					
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10 UJ	<10	<10	<10	<10	<10	<10	<10	<10UJ	<10	<10	<10 UJ	<10	<10	<10
Chloride	mg/l		250	82.0	98.0	83.3	76.8	81.9	100.0	83.1	107.0	101.0	138.0	94.6	76.0	90.7	87.4	98.4	122.0	94.2	125.0	103.0
Cyanide	ug/l	200																				
Dissolved Oxygen	mg/l			0.21	0.20	0.60	0.23	0.19	1.08		0.00	0.19	0.45	0.49	0.59	0.09	0.17	0.46	0.06	0.09	0.31	0.19
Nitrate	mg/l	10																				
Nitrate + Nitrite	mg/l	10		0.096	<0.050	0.074	0.15	0.22	0.55	0.454	<0.050	0.196	0.430	0.440	0.500	0.81J+	0.330	0.56	0.34	0.29	0.32	0.30
Oil and Grease	mg/l																					
Ortho-Phosphate (Total)	mg/l																					
Oxidation Reduction Potential	mV			-30.6	-26.7	-39.4	44.5	-34.4	84.3	-20.2	38.6	-17	99.3	55	37	-26	-35.5	34.5	35	45.8	12.9	12.4
Phosphorus (Total)	mg/l			0.093	0.014	<0.010	<0.010	<0.010	<0.010	<0.0100	<0.0100	0.0235	<0.0100	0.054	<0.010	0.03	0.045	0.017	0.036	0.036	0.079	<0.0100
pH	S.U.		6.5-8.5	7.25	6.90	6.88	6.89	7.18	6.93	6.89	6.97	6.77	7.06	7.09	7.00	6.98	7.10	7.08	6.85	7.08	7.09	7.27
Specific Conductance	um/cm			1001	1139	1021	1083	921	1014	937	972	1065	1100	924	871	942	1039	953	1390	1070	1073	1121
Sulfate	mg/l		250	62.6	83.6	73.1	81.8	48.6	71.0	90.2	63.2	82.9	123.0	49.8	38.4	47.7	53.3	46.1	66.1	34.9	37.9	37.0
Sulfide	mg/l																					
Total Dissolved Solids	mg/l		500	569	737	616	576	505	645J+	605	578	586	662	509	476	548	575	519	699	525	560	543
Dissolved Organic Carbon	mg/l																					
Total Organic Carbon	mg/l			1.8	1.9	3.2	2.5	1.5	1.8	2.4	1.3	2.4	2.5	<1.0	<1.0	1.9	1.1	<1.0	1.9	1.4	1.9	1.7
Total Suspended Solids	mg/l																					
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<7.5	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<20	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<7.5	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<15	<3
Methane	ug/l			6.4	74	6.3	36	2.0	2.6	5.9	12	3.6	8.4	<2.0	8.1	39	6.5	<2.0	150	40	37	43

*E* = Concentration exceeded the calibration range of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW05B	
				Sep-98	May-99
Alkalinity	mg/l				2721
Ammonia ( as N)	mg/l				<0.195
Biological Oxygen Demand	mg/l				
Chemical Oxygen Demand	mg/l				
Chloride	mg/l		250		102
Cyanide	ug/l	200			
Dissolved Oxygen	mg/l				2.42
Nitrate	mg/l	10			
Nitrate + Nitrite	mg/l	10			0.716
Oil and Grease	mg/l				
Ortho-Phosphate (Total)	mg/l				
Oxidation Reduction Potential	mV				138
Phosphorus (Total)	mg/l				
pH	S.U.		6.5-8.5	6.9	7.17
Specific Conductance	umv/cm			789	833
Sulfate	mg/l		250		43.9
Sulfide	mg/l				
Total Dissolved Solids	mg/l		500		
Dissolved Organic Carbon	mg/l				1.6
Total Organic Carbon	mg/l				1.4
Total Suspended Solids	mg/l				
Ethane	ug/l				<16
Ethene	ug/l				<15
Methane	ug/l				<8.6

*E = Concentration exceeded the calibration range  
of the instrument.*

*D = Analytical result after sample dilution.*

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW05BR																	
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06
Alkalinity	mg/l			237	231	263	273	267	272	275	279	311	325	293	235	293	322	308	289	237	263
Ammonia ( as N)	mg/l			<0.02	<0.02	<0.02	<0.020	<0.02	<0.020	<0.020	<0.02	<0.02	<0.020	<0.020	<0.020	<0.020	<0.020	0.12	<0.020	<0.020	<0.020
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l			<10		<10		<10		<10		10		<10	<10	<10	<10	<10	<10	<10	<10
Chloride	mg/l		250	183	93.3	80.2	87.2	134	105	78.2	82.2	87.2	68.8	78.7	131	76.8	103	84.4	97.1	85.8	92.8
Cyanide	ug/l	200		<0.02		<0.02		<0.02		<0.02		<0.02		<0.02	<0.020	<0.020					
Dissolved Oxygen	mg/l				0.00	0.00	0.56	3.10	1.87	0.00	0.00	5.15R	0.97	0.6	1.3	0.2	1.88	0.43	1.95	1.18	1.70
Nitrate	mg/l	10			1.4		0.64		1.1		0.62		0.98								
Nitrate + Nitrite	mg/l	10		1		0.36		1.1		0.47		0.40		0.57	1.00	0.49	0.60	0.49	0.68	0.61	0.39
Oil and Grease	mg/l			<5		<5		<5		<5		<5		<5	<5UJ	<5					
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV				285	43	109	125	79	59	103	55	-322R	-19.2	95.4	38.2	58.0	123.7	22.5	39.6	62.8
Phosphorus (Total)	mg/l			<0.02		0.047		0.02		<0.01		<0.01		<0.01	0.011	<0.01	<0.01	<0.01	<0.01	0.016	0.024
pH	S.U.		6.5-8.5	7.03	7.23	7.33	7.02	7.30	7.36	7.18	7.20	7.11	7.25	7.11	7.19	6.58	6.98	6.44	7.01	7.31	7.03
Specific Conductance	um/cm			986	946	784	708	843	910	756	920	980	788	825	914	840	954	680	991	854	872
Sulfate	mg/l		250	51.1	49	45	45.4	46.9	47.5	42.7	43.7	44.9	40.3	42.2	51.2	44.6	39.9	39.2	55.1	41.7	40.6
Sulfide	mg/l			<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/l		500	543		374		582		423		422		494	532	462	543	502	546	468	468
Dissolved Organic Carbon	mg/l			1.4	2.7	<1	1.2	2.2	4.1	3.0	<1.0	1.6	2.0	2.3							
Total Organic Carbon	mg/l			<1	<1	<1	<1.0	1.5	1.8	2.5	<1.0	1.8	1.6	<1.0	<1.0	1.0	<1.0	<1.0	<1.0	1.3	<1.0
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4.000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3.000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			140	950	<2	<2.000	<2	<2	<2	<2	<2	2	<2	<2	<2	<2	<2	<2	<2	<2

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ON NEXT PAGE

*E* = Concentration exceeded the calibration range  
of the instrument.  
*D* = Analytical result after sample dilution.



**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW05BR (cont'd)																			
				Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	
Alkalinity	mg/l	200	250	266	290	250	294	320	236	281	245	298	275	263	310	270	248	304	334	299	291	316	
Ammonia ( as N)	mg/l			<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.138	<0.020	<0.020	<0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Biological Oxygen Demand	mg/l																						
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10 UJ	<10	<10	<10	<10	<10	<10	<10	<10	<10UJ	<10	<10	<10	<10	<10	<10
Chloride	mg/l			75.0	60.6	75.9	81.1	79.7	99.0	90.7	132.0	87.3	131	88.2	72.7	92.4	127.0	94.9	82.6	91.2	113.0	93.7	
Cyanide	ug/l																						
Dissolved Oxygen	mg/l				0.58	0.06	1.14	0.84	0.29	6.83		3.29	0.81	1.15	1.5	2.0	0.8	3.1	0.66	0.15	0.62	1.34	1.28
Nitrate	mg/l			10																			
Nitrate + Nitrite	mg/l			10	0.33	0.42	0.40	0.32	0.39	1.07	0.551	0.803	0.342	0.280	0.65	0.64	0.47J+	0.98	0.50	0.30	0.63	0.37	0.59
Oil and Grease	mg/l																						
Ortho-Phosphate (Total)	mg/l																						
Oxidation Reduction Potential	mV		6.3	49.0	-35.8	47.2	5.3	90.6	59.2	78.3	52.0	93.9	86	125	-17	47	40.1	30.9	109.5	-17.4	-1.9		
Phosphorus (Total)	mg/l		0.099	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
pH	S.U.		6.5-8.5	7.11	7.24	7.09	7.13	7.26	7.18	7.23	7.07	7.07	7.29	7.24	7.08	7.24	7.30	7.28	7.20	7.30	7.33	7.46	
Specific Conductance	um/cm			868	715	848	883	843	1088	767	964	843	910	848	858	842	1063	868	976	968	827	973	
Sulfate	mg/l		250	37.6	42.5	40.4	45.6	36.8	46	39.0	42.1	37.7	43.8	34.5	33.5	36.6	44.5	36.9	35.1	32.9	36.0	34.5	
Sulfide	mg/l																						
Total Dissolved Solids	mg/l		500	455	482	457	444	467	600	471	534	534	525	444	507	469	536	472	487	492	486	452	
Dissolved Organic Carbon	mg/l																						
Total Organic Carbon	mg/l			<1.0	<1.0	1.8	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	1.1	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	
Total Suspended Solids	mg/l																						
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4		
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3		
Methane	ug/l			<2	2.1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		

*E = Concentration exceeded the calibration range of the instrument.*

*D = Analytical result after sample dilution.*

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW12A																			
				Feb-95	May-95	Aug-95	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02		
Alkalinity	mg/l	200	250	0.06								292J	276	292	281	307	332	343	333	304			
Ammonia ( as N)	mg/l			0.06									<0.1	<0.02	<0.02	<0.02	0.021	0.027	<0.02	<0.02	<0.02		
Biological Oxygen Demand	mg/l			<5																			
Chemical Oxygen Demand	mg/l			<20										<10		<10		<10		<10			
Chloride	mg/l			58									53	83.9	71.9	76.8	78.3	137	68.4	76.1	93.1		
Cyanide	ug/l			<0.75	<1.4	<1.4J									<0.02		<0.02	<0.02	<0.02	<0.02			
Dissolved Oxygen	mg/l												4.34		2.31	1.16	0.00	3.08	1.90	1.57	3.22		
Nitrate	mg/l			10											1.2		0.098		0.44		0.93		
Nitrate + Nitrite	mg/l			10		0.97							1.21J	2.3		0.18		1.6		0.18			
Oil and Grease	mg/l					<5.3								<5		<5		<5		<5			
Ortho-Phosphate (Total)	mg/l					<0.02																	
Oxidation Reduction Potential	mV												109		152	106	62	119	36	63	138		
Phosphorus (Total)	mg/l													0.02		<0.02		<0.02		<0.01			
pH	S.U.				6.5-8.5	7.32	7.78	6.93	7.35	7.58	7.2	7.48	7.52	7.21	7.45	6.8	6.98	7.13	6.87	7.17	7.23	6.99	7.21
Specific Conductance	um/cm					793	828	825	739	841	702	640	731	843	666	760	972	835	579	939	898	814	934
Sulfate	mg/l				250	42									40.5	48.8	50	39.0	41.6	34.9	45.8	39.9	46.8
Sulfide	mg/l															<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/l				500	420										472		408		592		540	
Dissolved Organic Carbon	mg/l												<1	2.3	6.1	<1	1.4	3.7	4.4	3.2	2.1		
Total Organic Carbon	mg/l			1									1.9	1.6	<1	<1	<1.0	1.9	2	3.3	1.6		
Total Suspended Solids	mg/l			<10																			
Ethane	ug/l												<16	<4	<4	<4	<4	<4	<4	<4	<4		
Ethene	ug/l												<15	<3	<3	<3	<3	<3	<3	<3	<3		
Methane	ug/l												<8.6	<2	<2	<2	<2	<2	<2	<2	<2		

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*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW12A (cont'd)																	
				May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10
Alkalinity	mg/l			287	313	242	250	315	318	293	264	304	271	209	309	267	319	295	286	303	318
Ammonia ( as N)	mg/l			<0.02	<0.02	<0.02	0.057	<0.02	<0.02	0.08	<0.02	0.062	<0.020	0.022	0.043	<0.020	0.038	<0.020	<0.020	0.070	<0.02
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l			<10		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10 UJ	<10	<10	<10
Chloride	mg/l		250	57.8	50.2	53.4	77.0	55.0	54.6	54.2	73.2	67.2	58.4	81.0	49.6	53.8	54.5	60.3	170.0	46.9	88.3
Cyanide	ug/l	200		<0.02		<0.02	<0.02	<0.02													
Dissolved Oxygen	mg/l			3.92R	0.34	0.2	1.0	1.3	3.02	0.54	5.94	0.55	2.45	5.02	0.96	1.05	4.04	0.58			2.91
Nitrate	mg/l	10			0.35																
Nitrate + Nitrite	mg/l	10		0.66		0.25	1.3	0.058	0.58	0.25	0.36	0.68	0.12	0.062	0.2	0.31	0.16	<0.050	1.3	0.526	1.21
Oil and Grease	mg/l			<5		<5	<5J	<5													
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV			125	-317R	-10.2	76.5	18.6	38.1	25.4	42.4	17.1	50.6	20.0	13.9	-114.0	79.2	14.7	78.1	47.6	62.3
Phosphorus (Total)	mg/l			0.022		<0.01	<0.01	<0.01	<0.01	0.059	0.015	0.036	0.022	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0180	<0.0100
pH	S.U.		6.5-8.5	7.14	7.15	7.05	7.12	7.13	6.94	6.87	6.99	7.15	7.28	6.76	7.32	7.10	7.14	7.25	7.41	7.14	6.87
Specific Conductance	um/cm			836	712	767	809	798	774	611	886	802	788	981	690	777	786	770	1080	706	874
Sulfate	mg/l		250	45.4	37.6	33.4	52.2	32.1	36.4	48.2	45.4	42.0	41.5	37.9	35.6	28.9	36.0	32.6	27.0	31.8	40.7
Sulfide	mg/l			<2.0	<2.0	<2.0	<2.0	<2.0													
Total Dissolved Solids	mg/l		500	392		473	480	457	448	431	481	487	452	507	396	390	384	415	629	402	506
Dissolved Organic Carbon	mg/l			2.4	2.4	2.8															
Total Organic Carbon	mg/l			1.4	1.6	<1.0	<1.0	1.4	<1.0	<1.0	1.3	<1.0	<1.0	1.1	<1.0	1.9	<1.0	<1.0	1.2	<1.0	<1.0
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			<2	<2	<2	<2	12	3.6	3.6	<2	<2	<2	<2	<2	<2	<2	2.0	<2	<2	<2

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*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW12A (cont'd)										
				Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15
Alkalinity	mg/l			257	368	287	316	331	381 J+	357	351	311	347	330
Ammonia ( as N)	mg/l			<0.02	<0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Biological Oxygen Demand	mg/l													
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10	<10	<10	<10	10.6	<10	<10
Chloride	mg/l		250	70.8	123	71.6	59.4	70	60.8	73.8	71.7	73.1	69.3	76.1
Cyanide	ug/l	200												
Dissolved Oxygen	mg/l			4.31	7.95	0.27	1.49	0.52	5.81	0.63	4.02	0.66	5.72	1.40
Nitrate	mg/l	10												
Nitrate + Nitrite	mg/l	10		0.162	2.6	0.52	0.71	0.53	0.53	0.27	0.16	0.13	0.15	0.19
Oil and Grease	mg/l													
Ortho-Phosphate (Total)	mg/l													
Oxidation Reduction Potential	mV			95.0	98.0	73	114	1	62	35.9	39.0	52.3	-19.9	21.5
Phosphorus (Total)	mg/l			<0.0100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.015	<0.010
pH	S.U.		6.5-8.5	6.83	7.43	7.05	7.04	7.13	7.2	7.07	7.19	7.04	7.24	7.21
Specific Conductance	um/cm			858	1096	824	818	814	879	867	918	973	898	1005
Sulfate	mg/l		250	33.5	49.1	38.6	35.0	34.4	44.4	36.2	34.5	30.5	42.9	33.1
Sulfide	mg/l													
Total Dissolved Solids	mg/l		500	404	621	458	452	450	521	459	487	478	450B	470
Dissolved Organic Carbon	mg/l													
Total Organic Carbon	mg/l			1.6	2.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0
Total Suspended Solids	mg/l													
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

*E = Concentration exceeded the calibration range  
of the instrument.*

*D = Analytical result after sample dilution.*

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW12B																	
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06
Alkalinity	mg/l			269	254	323	280	269	278	248	252	248	264	204	214	241	277	247	242	215	212
Ammonia ( as N)	mg/l			0.065	<0.02	0.053	<0.020	0.088	<0.020	0.10	0.064	0.056	0.054	<0.020	<0.020	0.032	0.088	0.20	0.092	0.099	0.068
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l			<10		<10		<10		<10		<10		<10	<10	<10	<10	<10	<10	<10	<10
Chloride	mg/l		250	72.3	74.6	72.9	74.5	76.4	75.2	75.2	76.8	81.3	73.1	75.5	87.6	75.9	70.8	80.8	73.4	80.2	77.6
Cyanide	ug/l	200		<0.02		<0.02		<0.02		<0.02		<0.02		<0.02	<0.02	<0.02					
Dissolved Oxygen	mg/l				0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.57R	0.16	0.10	0.20	0.10	0.13	0.13	0.31	0.15	0.38
Nitrate	mg/l	10			<0.05		<0.050		<0.050		<0.05		<0.050								
Nitrate + Nitrite	mg/l	10		<0.05		<0.05		0.073		<0.05		<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Oil and Grease	mg/l			<5		<5		<5		<5		<5		<5	<5UJ	<5					
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV				-118	-137	-143	-136	-139	-161	-116	-144	-336R	-76.1	-109.1	-100.3	-138.4	-135.5	-134.6	-122.5	-95.7
Phosphorus (Total)	mg/l			<0.02		<0.02		<0.02		<0.01		<0.01		0.013	<0.01	<0.01	<0.01	<0.01	<0.01	0.018	0.034
pH	S.U.		6.5-8.5	7.19	7.02	7.29	6.90	7.31	7.43	7.29	7.38	7.20	7.40	7.17	7.35	7.22	7.17	7.08	7.20	7.80	7.54
Specific Conductance	um/cm			716	897	786	558	702	815	712	769	847	724	781	763	756	785	636	815	776	771
Sulfate	mg/l		250	44.6	46.2	45.0	46.8	45.2	44.8	44.9	46.1	47.0	43.3	45.2	53.3	47.7	44.7	48.5	46.3	51.0	45.9
Sulfide	mg/l			<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0					
Total Dissolved Solids	mg/l		500	447		414		441		454		447		473	432	397	460	461	476	465	470
Dissolved Organic Carbon	mg/l			<1	3.5	<1	2.3	2.6	2.6	2.4	1.0	1.4	2.1	1.1							
Total Organic Carbon	mg/l			<1	<1	<1	<1.0	1.3	1.6	2.2	1.1	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4.000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3.000	<3	<3	7.4	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			53	42	35	110	9.8	51	42	32	2.1	4.1	<2	<2	2.9	18	<2	5.2	<2	3.2

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ON NEXT PAGE

*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW12B (cont'd)																		
				Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15
Alkalinity	mg/l			247	266	230	246	238	277	290	258	269	288	220	259	266	273	251	266	260	243	256
Ammonia ( as N)	mg/l			0.076	0.075	0.076	0.13	0.14	3.74	0.070	0.079	0.072	<0.20	0.069	0.079	0.093	0.089	0.065	0.064	0.077	0.069	0.069
Biological Oxygen Demand	mg/l																					
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10 UJ	<10	<10	<10	<10	<10	<10	<10	<10UJ	<10	<10	<10	10.3	<10	<10
Chloride	mg/l		250	73.8	80.4	75.9	78.3	77.6	75	71.3	72.1	84.5	78.5	86.3	81.6	89.8	87.9	90.3	85.6	84.9	88.0	89.0
Cyanide	ug/l	200																				
Dissolved Oxygen	mg/l			0.15	0.07	0.26	0.15	0.11	0.88		0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.02	0.05	0.06	0.03	0.03
Nitrate	mg/l	10																				
Nitrate + Nitrite	mg/l	10		<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l																					
Ortho-Phosphate (Total)	mg/l																					
Oxidation Reduction Potential	mV			-113.1	-124.9	134.1	-111.4	-118.3	-113.2	-129.9	-114.8	-136	-118	-129	-131	-146	-117.9	-82.0	-111.9	-92.2	-115.1	-122.2
Phosphorus (Total)	mg/l			<0.010	0.016	<0.010	<0.010	<0.010	0.0167	<0.0100	0.0518	0.0518	<0.010	<0.010	0.027	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	S.U.		6.5-8.5	8.03	7.38	7.35	7.33	7.49	7.39	7.33	7.29	7.16	7.50	7.33	7.25	7.36	7.47	7.37	7.42	7.31	7.38	7.35
Specific Conductance	um/cm			834	775	807	821	790	772	735	721	811	812	792	828	821	818	839	897	941	824	954
Sulfate	mg/l		250	46.2	49.2	48.0	49.6	48.1	49.0	45.4	44.5	49.3	47.5	47.8	47.1	48.5	48.7	49.7	46.4	46.4	44.9	45.2
Sulfide	mg/l																					
Total Dissolved Solids	mg/l		500	436	383	352	403	437	448	430	431	373	466	451	472	455	464	443	447	421	425B	451
Dissolved Organic Carbon	mg/l																					
Total Organic Carbon	mg/l			<1.0	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l																					
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			2.8	2.7	3.6	3.9	<2	<2	5.1	3.5	3.5	2.3	<2	3.2	3.5J+	<2	<2	2.3	<2	<2	9.2

*E = Concentration exceeded the calibration range  
of the instrument.*

*D = Analytical result after sample dilution.*

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW13B																	
				Feb-95	May-95	Aug-95	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02
Alkalinity	mg/l											307J	311	291	331	325	318	331	298	316	
Ammonia ( as N)	mg/l											<0.117	<0.02	<0.02	<0.02	<0.020	<0.02	<0.020	0.03	<0.020	
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l															<10				<10	
Chloride	mg/l		250									36.9	41.7	40	41.7	40.5	39	39.5	41.0	42.3	
Cyanide	ug/l	200		<0.75	<1.4	<1.4J										<0.02			<0.02		
Dissolved Oxygen	mg/l											0.05		0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Nitrate	mg/l	10											0.05	<0.05		<0.050		<0.050		<0.05	
Nitrate + Nitrite	mg/l	10										<0.1			<0.05		<0.05		<0.05		
Oil and Grease	mg/l															<5			<5		
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV											-57		-106	-133	-117	-129	-128	-155	-107	
Phosphorus (Total)	mg/l															<0.02			<0.01		
pH	S.U.		6.5-8.5	7.53	7.67	7.72	7.1	7.13	7.55	7.47	7.52	7.1	7.31	7.04	7.27	7.32	6.79	7.19	7.25	7.12	7.22
Specific Conductance	um/cm			553	786	757	735	799	694	706	721	829	742	712	920	779	549	656	797	710	768
Sulfate	mg/l		250										62.4	70.4	64.4	67.1	64.5	59	57.5	57.7	61.7
Sulfide	mg/l													<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/l		500													400				461	
Dissolved Organic Carbon	mg/l											1.1	<1	5	<1	2	2.7	3.1	1.3	1.1	
Total Organic Carbon	mg/l											1.5	<1	<1	<1	<1.0	1.1	1.6	1.0	1.1	
Total Suspended Solids	mg/l																				
Ethane	ug/l											<16	<4	<4	<4	<4.000	<4	<4	<4	<4	<4
Ethene	ug/l											<15	<3	<3	<3	<3.000	<3	<3	<3	<3	<3
Methane	ug/l											<8.6	<2	<2	<2	<2.000	<2	2.2	<2	<2	<2

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*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

			Secondary	MW13B (cont'd)																	
Parameter	Units	MCL	Standard	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10
Alkalinity	mg/l			283	322	284	233	267	301	280	255	271	271	300	290	340	303	296	288	307	310
Ammonia ( as N)	mg/l			<0.02	<0.020	<0.020	<0.020	<0.020	<0.020	0.092	<0.020	<0.020	0.066	0.025	0.034	0.033	<0.020	0.061	<0.020	0.094	0.034
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l					<10		<10		<10		<10		<10		<10		<10 UJ		<10	
Chloride	mg/l		250	44.0	44.8	44.0	56.6	48.2	46.8	48.3	45.6	43.8	43.7	52.8	49.5	52.6	46.0	44.6	46.0	55.8	61.9
Cyanide	ug/l	200				<0.02		<0.02													
Dissolved Oxygen	mg/l			3.16R	0.05	0.30	0.10	0.00	0.03	0.56	0.14	0.13	0.33	0.15	0.08	0.37	0.10	0.04	1.10		0.00
Nitrate	mg/l	10		<0.05	<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050R
Nitrate + Nitrite	mg/l	10				<0.05		<0.05		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050	
Oil and Grease	mg/l					<5		<5													
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV			-126	-313R	-54.7	-118	-98.5	-130.6		-131.2	-105.9	-72.5	-88.5	-107.8	-182.4	-89.3	-116.1	-123.6	-115.7	-91.6
Phosphorus (Total)	mg/l					<0.01		<0.01		<0.01		<0.01		0.1		<0.010		<0.010		0.0143	
pH	S.U.		6.5-8.5	7.15	7.22	7.14	7.23	7.54	7.05	6.93	7.09	7.59	7.30	7.17	6.98	7.22	7.53	7.40	7.23	7.20	7.15
Specific Conductance	um/cm			830	759	703	768	716	769	864	789	741	754	720	805	725	809	659	797	757	649
Sulfate	mg/l		250	62.7	64.2	64.8	75.9	63.3	60.1	58.6	58.3	60.4	58.0	54.3	52.1	46.7	49.5	53.4	50.0	50.1	45.6
Sulfide	mg/l			<2.0	<2.0	<2.0	<2.0	<2.0													
Total Dissolved Solids	mg/l		500			413		459		418		465		397		435		438		396	
Dissolved Organic Carbon	mg/l			2.0	2.5	6.3															
Total Organic Carbon	mg/l			<1.0	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			<2	<2	<2	<2	<2	4.4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

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*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.



**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW 13B (cont'd)											
				Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15	
Alkalinity	mg/l			324	355 J+	313	336	344	329	327	326	308	320	355	
Ammonia ( as N)	mg/l			0.020	0.120	0.045	0.022	0.039	0.043	<0.020	<0.020	0.023	<0.020	0.047	
Biological Oxygen Demand	mg/l														
Chemical Oxygen Demand	mg/l			<10		<10		<10		<10		<10		<10	
Chloride	mg/l		250	71.6	67.2	54.9	47.4	58.4	51.6	57.4	51.1	60.6	52.0	57.4	
Cyanide	ug/l	200													
Dissolved Oxygen	mg/l			0.23	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.01	0.00	
Nitrate	mg/l	10			<0.050		<0.050UJ		<0.050		<0.050		<0.050		
Nitrate + Nitrite	mg/l	10		<0.050		<0.050	<0.050UJ	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Oil and Grease	mg/l														
Ortho-Phosphate (Total)	mg/l														
Oxidation Reduction Potential	mV			-126	-115	-119	-108	-139	-95.6	-48.6	-98.3	-78.8	-109.9	-110.6	
Phosphorus (Total)	mg/l			<0.010		<0.010		<0.010		<0.010		<0.010		<0.010	
pH	S.U.		6.5-8.5	7.01	7.32	7.18	7.06	7.18	7.3	7.22	7.19	7.23	7.14	7.25	
Specific Conductance	um/cm			845	864	831	825	866	810	792	981	996	868	933	
Sulfate	mg/l		250	49.8	49.9	48.1	43.6	47.8	43.1	43.3	44.9	43.7	43.6	43.0	
Sulfide	mg/l														
Total Dissolved Solids	mg/l		500	485		476		488		425		479		454	
Dissolved Organic Carbon	mg/l														
Total Organic Carbon	mg/l			<1.0	1.2	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	
Total Suspended Solids	mg/l														
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	
Methane	ug/l			<2	<2	<2	<2	3.8	<2	<2	<2	<2	<2	<2	

*E = Concentration exceeded the calibration range  
of the instrument.*

*D = Analytical result after sample dilution.*

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW13C																	
				Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05
Alkalinity	mg/l				292J	302	283	323	302	302	317	285	278	286	318	287	234	262	289	267	246
Ammonia ( as N)	mg/l				<0.121	0.06	<0.02	<0.02	<0.020	0.07	<0.020	0.074	0.026	0.034	<0.020	<0.020	<0.020	<0.020	0.051	0.073	0.070
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l					25				<10				<10			<10		<10		<10
Chloride	mg/l		250		30.6	35	34.9	38.3	38.1	36.9	37.4	38.1	39.3	41.6	41.9	41.2	52.2	47.8	48.5	50.3	60.8
Cyanide	ug/l	200				<0.02				<0.02				<0.02			<0.02				
Dissolved Oxygen	mg/l				0.06		0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79R	0.06	0.10	0.10	0.00	0.05	0.80	0.16
Nitrate	mg/l	10					<0.05		<0.050		<0.050	<0.050	<0.05		<0.050	<0.050			<0.050		
Nitrate + Nitrite	mg/l	10			<0.1	<0.05		<0.05		<0.05				<0.05			<0.05	<0.05	<0.05		<0.050
Oil and Grease	mg/l					<5				<5				<5			<5				
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV				2		-114	-140	-140	-134	-137	-160	-104	-131	-320R	-62.0	-114.5	-111.1	-125.3		-131.3
Phosphorus (Total)	mg/l					<0.02				<0.02				0.012			<0.01		<0.01		<0.01
pH	S.U.		6.5-8.5	7.1	7.38	7.11	7.28	7.35	7.14	7.27	7.35	7.31	7.31	7.28	7.28	7.28	7.30	7.41	7.11	7.31	7.19
Specific Conductance	um/cm			781	677	676	897	754	538	673	777	686	755	813	736	693	744	705	766	855	769
Sulfate	mg/l		250		52.2	68.2	63	68.5	68.7	64.7	65	65.2	67.2	66.2	62.6	59.4	68.9	60.4	58.6	60.3	75.9
Sulfide	mg/l					<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0			
Total Dissolved Solids	mg/l		500			434				444				434			435J		473		427
Dissolved Organic Carbon	mg/l				<1	2.8	3.7	<1	2.1	2.9	2.4	3.4	1.0	1.5	1.8	<1.0			<1.0	<1.0	<1.0
Total Organic Carbon	mg/l				1	<1	1.1	<1	<1.0	1.5	1.4	1.0	<1.0	<1.0	1.0	<1.0	<1.0	1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l																				
Ethane	ug/l				<16	<4	<4	<4	<4.000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l				<15	<3	<3	<3	<3.000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l				<8.6	<2	<2	2	2.2	<2	2.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

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*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW13C (cont'd)																				
				Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15
Alkalinity	mg/l			228	236	254	277	285	302	304	275	329	299	315	322	283	322	309	277	326	291	306B	302	354
Ammonia ( as N)	mg/l			0.066	0.068	0.062	0.060	0.083	0.10	0.13	0.079	0.083	0.079	0.055	0.140	0.059	0.074	0.080	0.072	0.065	0.055	0.063	0.042	0.059
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l				<10		<10		<10		<10		<10		<10		<10		<10		<10		<10	
Chloride	mg/l		250	44.8	41.4	41.3	39.2	38.7	38.9	36.0	39	45.3	43.8	43.3	44.8	43.2	39.5	43.9	42.8	47.7	49.2	41.6	49.0	49.9
Cyanide	ug/l	200																						
Dissolved Oxygen	mg/l			0.17	0.57	0.17	0.04	0.40	1.40	0.22	1.37		0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.05	0.08	0.07	0.05	0.03
Nitrate	mg/l	10		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050
Nitrate + Nitrite	mg/l	10		<0.050			<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050	<0.050
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			-112.4	-86.1	-102.5	-110.4	-181.2	-91.2	-108.8	-125.0	-116.8	-93.3	-139.0	-115.0	-124	-109	-145	-105	-52.4	-104.5	-86.3	-106.3	-115.4
Phosphorus (Total)	mg/l				0.036		<0.010		<0.010		<0.010		0.0243				<0.010		<0.010		<0.010		<0.010	
pH	S.U.		6.5-8.5	7.72	7.53	7.30	7.14	7.35	7.65	7.47	7.30	7.26	7.25	7.12	7.41	7.27	7.18	7.29	7.39	7.20	7.27	7.30	7.22	7.33
Specific Conductance	um/cm			713	724	666	748	654	751	623	762	726	572	753	764	752	766	765	711	747	897	929	834	868
Sulfate	mg/l		250	63.1	57.2	59.6	57.4	54.6	54.1	50.4	50.0	50.6	49.3	46.9	48.1	44.9	43.2	44.3	42.4	43.5	41.9	41.6	43.2	44.9
Sulfide	mg/l																							
Total Dissolved Solids	mg/l		500		436		511		434		488J+		416		426		393		445		420		448	
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l			<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

*E* = Concentration exceeded the calibration range of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW14B																	
				Feb-95	May-95	Aug-95	Dec-95	May-96	Nov-96	May-97	Nov-97	Sept-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02
Alkalinity	mg/l											305J	308	284	322	308	296	305	277	268	
Ammonia ( as N)	mg/l											0.154	<0.02	<0.02	<0.02	<0.020	<0.02	<0.02	0.04	<0.02	
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l																				
Chloride	mg/l		250																		
Cyanide	ug/l	200		<0.75	<1.4	<1.4J							40.6	45.5	43.1	45.9	45.2	44.7	44.7	45.4	46.4
Dissolved Oxygen	mg/l																				
Nitrate	mg/l	10																			
Nitrate + Nitrite	mg/l	10																			
Oil and Grease	mg/l																				
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV																				
Phosphorus (Total)	mg/l												-76		-89	-134	-131	-129	-137	-157	-101
pH	S.U.		6.5-8.5	7.16	7.74	7.37	7.37	7.13	7.76	7.43	7.62	7.17	7.26	7.05	7.02	7.20	7.05	7.22	7.20	7.34	7.30
Specific Conductance	um/cm			542	762	830	722	801	666	691	696	833	689	710	911	766	547	671	752	673	744
Sulfate	mg/l		250										5.72	63.2	56	58.5	57.9	53.3	53	53.3	55.0
Sulfide	mg/l													<2	<2		<2	<2	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/l		500													446				427	
Dissolved Organic Carbon	mg/l												<1	1.5	3.5	<1	1.2	1.8	1.9	1.9	1.9
Total Organic Carbon	mg/l												1.8	<1	<1	<1	<1.0	1.3	1.4	<1.0	1.0
Total Suspended Solids	mg/l																				
Ethane	ug/l												<16	<4	<4	<4	<4.000	<4	<4	<4	<4
Ethene	ug/l												<15	<3	<3	<3	<3.000	<3	<3	<3	<3
Methane	ug/l												<8.6	<2	<2	<2	<2.000	<2	<2	<2	<2

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*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW14B (cont'd)																	
				May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10
Alkalinity	mg/l			273	309	219	236	262	296	215	247	216	228	272	272	264	286	251	229	284	268
Ammonia ( as N)	mg/l			<0.02	<0.020	<0.020	<0.020	<0.020	<0.020	0.071	0.085	0.044	0.062	0.027	0.062	0.029	<0.020	0.053	<0.020	0.034	0.048
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l					<10		<10		<10		<40		<10		<10		<10 UJ		<10	
Chloride	mg/l		250	48.5	47.0	47.4	64.7	55.0	55.7	62.4	59.7	59.8	55.7	53.2	50.0	50.3	49.4	50.8	48.0	51.0	52.0
Cyanide	ug/l	200				<0.02		<0.02													
Dissolved Oxygen	mg/l			2.00R	0.06	0.10	0.10	0.00	0.06	0.31	0.28	0.23	0.72	0.23	0.10	0.72	0.17	0.14	1.10		0.00
Nitrate	mg/l	10		<0.05	<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050R
Nitrate + Nitrite	mg/l	10				<0.05		<0.05		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050	
Oil and Grease	mg/l					<5		<5													
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV			-139	-300R	-71.4	-115.1	-141.7	-104.1		-129.9	-116.4	-70.5	-98.9	-109.1	-143.3	-88.6	-99.9	-129.2	-105.4	-83.0
Phosphorus (Total)	mg/l					<0.01		<0.01		<0.01			<0.01		<0.010		<0.010		0.0105		
pH	S.U.		6.5-8.5	7.00	7.19	7.21	7.28	6.82	6.91	7.29	7.14	7.86	7.08	7.11	7.13	7.03	7.22	7.41	7.27	7.24	7.04
Specific Conductance	um/cm			833	732	747	775	752	800	886	814	750	758	678	766	654	768	627	726	711	558
Sulfate	mg/l		250	55.4	55.1	56.4	67.5	59.6	56.9	58.0	57.6	57.6	51.4	53.1	51.9	48.7	50.4	50.1	46.0	47.4	48.3
Sulfide	mg/l			<2.0	<2.0	<2.0	<2.0	<2.0													
Total Dissolved Solids	mg/l		500			471		430		423		455		422		407		413		415	
Dissolved Organic Carbon	mg/l			1.5	3.7	5.6															
Total Organic Carbon	mg/l			<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

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*E* = Concentration exceeded the calibration range  
of the instrument.  
*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW14B (cont'd)										
				Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15
Alkalinity	mg/l			308	316	272	432J+	268	278	291	370	267	274	291
Ammonia ( as N)	mg/l			0.033	0.15	0.081	0.04	0.059	0.054	<0.020	0.027	0.04	<0.020	0.047
Biological Oxygen Demand	mg/l													
Chemical Oxygen Demand	mg/l			<10		<10		<10		<10		<10		<10
Chloride	mg/l		250	53.8	51.4	49.5	47.9	53.3	53.1	53.9	72.3	52.1	57.0	58.6
Cyanide	ug/l	200												
Dissolved Oxygen	mg/l			0.09	0.03	0.00	0.03	0.00	0.00	0.05	0.06	0.09	0.05	0.03
Nitrate	mg/l	10			<0.050		<0.050		<0.050		<0.050		<0.050	
Nitrate + Nitrite	mg/l	10		<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l													
Ortho-Phosphate (Total)	mg/l													
Oxidation Reduction Potential	mV			-120	-95	-120	-123	-139	-99.9	-63.0	-113.8	-85.0	-92.8	-109.8
Phosphorus (Total)	mg/l			<0.010		<0.010		<0.010		<0.010		<0.010		<0.010
pH	S.U.		6.5-8.5	6.99	9.04	7.21	7.10	7.26	7.35	7.27	7.25	7.28	7.24	7.30
Specific Conductance	um/cm			739	734	727	744	748	737	704	854	894	766	858
Sulfate	mg/l		250	50.1	45.7	42.6	41.1	41.9	48.4	43.8	44.2	44.4	41.8	44.6
Sulfide	mg/l													
Total Dissolved Solids	mg/l		500	408		411		408		399		440		416
Dissolved Organic Carbon	mg/l													
Total Organic Carbon	mg/l			1.1	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l													
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

*E = Concentration exceeded the calibration range of the instrument.*

*D = Analytical result after sample dilution.*

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW15B																	
				Feb-95	May-95	Aug-95	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02
Alkalinity	mg/l											349J	329	303	336	336	300	326	287	294	
Ammonia ( as N)	mg/l											0.808	0.79	0.6	0.57	0.53	0.57	0.37	0.28	0.29	
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l												22.8		<10		<10		<10		
Chloride	mg/l		250									62.4	74.7	77.3	72.1	70.1	95	79.5	74.7	73.2	
Cyanide	ug/l	200		<0.75	<1.4	<1.4J							<0.02		<0.02		<0.02		<0.02		
Dissolved Oxygen	mg/l											0.4		0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Nitrate	mg/l	10												<0.05		<0.050		<0.050		<0.05	
Nitrate + Nitrite	mg/l	10										<0.1R	<0.05		<0.05		<0.05		<0.05		
Oil and Grease	mg/l												<5		<5		<5		<5		
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV											207		200	40	44	98	-1	46	89	
Phosphorus (Total)	mg/l												<0.02		<0.02		<0.02		<0.01		
pH	S.U.		6.5-8.5	7.23	7.33	6.93	7.42	7.66	7.52	7.35	7.49	7.51	7.35	6.87	6.99	7.16	6.77	7.06	7.15	7.16	7.16
Specific Conductance	um/cm			587	846	851	814	836	746	749	766	847	814	777	850	864	622	785	873	752	859
Sulfate	mg/l		250										26.2	36.1	39.1	46.4	47.9	46.3	45.5	44.7	47.6
Sulfide	mg/l													<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/l		500											491		459		536		416	
Dissolved Organic Carbon	mg/l												1.2	1.5	3.1	<1	2.8	3.4	2.8	1.3	1.8
Total Organic Carbon	mg/l												3.8	1	<1	<1	1.2	1	2	1.4	1.4
Total Suspended Solids	mg/l																				
Ethane	ug/l												<16	<4	<4	<4	<4.000	<4	<4	<4	<4
Ethene	ug/l												<15	<3	<3	<3	<3.000	<3	<3	<3	<3
Methane	ug/l												240	210	62	82	140	7.7	62	68	59

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*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW15B (cont'd)																	
				May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10
Alkalinity	mg/l			316	342	249	272	321	361	258	293	277	275	324	369	290	313	318	322	270	298
Ammonia ( as N)	mg/l			0.38	0.57	0.32	0.79	0.70	0.73	1.1	1.2	1.2	0.92	0.54	1.0	0.69	1.1	1.2	0.806	0.356	0.203
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l			<10		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10 UJ	<10	<10	<10
Chloride	mg/l		250	74.6	65.7	65.8	88.4	67.4	61.4	68.4	79.3	76.2	66.1	66.0	60.2	64.1	58.8	60.2	84.0	94.6	85.1
Cyanide	ug/l	200		<0.02		<0.02	<0.02	<0.02													
Dissolved Oxygen	mg/l			3.02R	0.04	0.10	0.00	0.00	0.05	0.14	0.11	0.12	0.38	0.15	0.04	0.35	0.14	0.06	1.39		0.00
Nitrate	mg/l	10			<0.050																
Nitrate + Nitrite	mg/l	10		<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.33	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l			<5		<5	<5UJ	<5													
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV			58	-325R	-15.5	55.8	62.3	14.6		-2.4	-8.6	6.0	-37.9	-30.8	-171.9	-42.0	-36.6	-54.5	-51.1	-42.9
Phosphorus (Total)	mg/l			0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.010	<0.010	<0.010	<0.010	<0.0100	<0.0100
pH	S.U.		6.5-8.5	7.00	7.07	7.09	7.13	6.87	6.84	7.11	6.97	7.49	7.34	7.16	7.01	7.09	7.45	7.26	7.10	7.20	7.05
Specific Conductance	um/cm			980	816	831	880	895	994	958	984	853	846	753	900	714	816	705	896	795	486
Sulfate	mg/l		250	50.9	49.0	46.6	53.6	66.6	42.1	37.8	93.8	55.6	40.0	41.1	38.3	39.1	40.5	44.8	38.0	40.8	39.5
Sulfide	mg/l			<2.0	<2.0	<2.0	<2.0	<2.0													
Total Dissolved Solids	mg/l		500	481		519	473J	546	576	497	552	510	512	451	583	421	480	500	555J+	419	443
Dissolved Organic Carbon	mg/l			2.2	3.2	1.7															
Total Organic Carbon	mg/l			1.4	1.9	<1.0	<1.0	1.6	1.5	1.4	1.9	<1.0	1.2	<1.0	<1.0	1.4	<1.0	<1.0	1.4	<1.0	1.4
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4	<9.4	<47	<9.4	<9.4	<4	<4.7	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<4.9	<25	<4.9	<4.9	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			20	17	5.9	22	120	600	74	51	13	59	4.7	220	26	79	21	15	6.0	19.0

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*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.



**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW15B (cont'd)										
				Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15
Alkalinity	mg/l			305	369	300	349	278	361	356	358	347	338	298
Ammonia ( as N)	mg/l			0.24	0.35	0.45	0.59	0.45	0.41	0.48	0.71	0.91	0.39	0.68
Biological Oxygen Demand	mg/l													
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloride	mg/l		250	87.8	87.1	73.7	64.9	80.6	78.4	83.1	70.8	72.6	85.7	84.7
Cyanide	ug/l	200												
Dissolved Oxygen	mg/l			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.00	0.00
Nitrate	mg/l	10												
Nitrate + Nitrite	mg/l	10		<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l													
Ortho-Phosphate (Total)	mg/l													
Oxidation Reduction Potential	mV			-75	-68	-72	-64	-108	-50.6	-12.5	-59.4	-31.9	-58.6	-73
Phosphorus (Total)	mg/l			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	S.U.		6.5-8.5	6.97	7.27	7.09	6.98	7.11	7.20	7.12	7.13	7.11	7.14	7.14
Specific Conductance	um/cm			891	920	881	917	874	887	892	1011	1056	923	1000
Sulfate	mg/l		250	39.8	40.5	55.7	44.9	33.4	30.4	34.3	41.6	30.8	25.7	31.2
Sulfide	mg/l													
Total Dissolved Solids	mg/l		500	452	524	501	532	475	523	474	483	490	472B	459
Dissolved Organic Carbon	mg/l													
Total Organic Carbon	mg/l			1.7	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	1.1	<1.0	1.3	1.1
Total Suspended Solids	mg/l													
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			19	25	27	90	15	28	23	43	98	22	52

*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW15C																	
				Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05
Alkalinity	mg/l				315J	314	292	330	312	284	317	286	284	287	319	234	244	273	309	282	261
Ammonia ( as N)	mg/l				0.377	0.24	0.21	0.15	0.14	0.23	0.13	0.25	0.17	0.20	0.18	0.12	0.16	0.16	0.22	0.26	0.26
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l					21.9				<10				<10			<10		<10		<10
Chloride	mg/l		250		41.5	46.5	45	48	47.4	49.6	48	49.5	48.4	52.7	50.4	49.4	63.4	53.2	56.3	57.3	67.1
Cyanide	ug/l	200				<0.02				<0.02				<0.02			<0.02				
Dissolved Oxygen	mg/l				0.18		1.47	0.00	0.00	0.00	0.00	0.00	0.00	2.09R	0.10	0.20	0.20	0.10	0.10	0.28	0.26
Nitrate	mg/l	10					<0.050		<0.050		<0.050	<0.050	<0.05		<0.050	<0.050		<0.05		<0.050	
Nitrate + Nitrite	mg/l	10			<0.1R	<0.05		<0.05		<0.05				<0.05			<0.05		<0.05		<0.05
Oil and Grease	mg/l					<5				<5				<5			<5				
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV				-79		-108	-140	-138	-144	-139	-164	-111	-146	-320R	-81.0	-124.6	-124.8	-124.8		-126.8
Phosphorus (Total)	mg/l					<0.02				<0.02				0.019			0.017		<0.01		<0.01
pH	S.U.		6.5-8.5	7.77	7.65	7.14	7.23	7.37	7.15	7.31	7.38	7.39	7.48	7.25	7.30	7.30	7.40	7.02	7.09	7.40	7.23
Specific Conductance	um/cm			714	677	671	867	738	526	655	741	662	726	809	715	721	741	725	760	824	771
Sulfate	mg/l		250		27	31	31.6	32.2	32.9	31.6	31.9	31.5	32.7	33.5	33.5	32.3	37.9	34.1	32.9	34.9	39.7
Sulfide	mg/l					<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0			
Total Dissolved Solids	mg/l		500			457				418				399			424J		443		434
Dissolved Organic Carbon	mg/l				<1	8.3	3.3	<1	2.2	1.8	2.7	1.2	2.5	1.6	2.2	1.9					
Total Organic Carbon	mg/l				<1	<1	<1	<1	1	1.9	1.8	1.2	1.8	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l																				
Ethane	ug/l				<16	<4	<4	<4	<4.000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l				<15	<3	<3	<3	<3.000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l				<8.6	4.1	2.9	5.7	5.3	3.6	6.5	3.9	3.6	<2	<2	<2	<2	2.0	5.7	2.0	2.1

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E = Concentration exceeded the calibration range  
of the instrument.

D = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW15C (cont'd)																				
				Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15
Alkalinity	mg/l			255	248	266	269	285	255	276	258	303	279	303	306	249	289	284	280	305	284	287B	286	295
Ammonia ( as N)	mg/l			0.30	0.18	0.17	0.23	0.23	0.27	0.32	0.326	0.271	0.236	0.201	0.42	0.22	0.22	0.27	0.23	0.18	0.25	0.26	0.24	0.23
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l				<10		<10		<10		<10		<10		<10		<10		<10		<10 UJ		<10	
Chloride	mg/l		250	57.0	57.2	56.2	56.0	57.8	57.5	59.4	57.0	58.6	57.4	58.9	62.3	60.4	58.6	64.7	64.1	65.0	61.4	63.2	66.4	68.8
Cyanide	ug/l	200																						
Dissolved Oxygen	mg/l			0.18	0.47	0.23	0.16	0.37	0.49	0.16	1.13		0.00	0.03	0.00	0.00	0.01	0.00	0.00	0.05	0.08	0.09	0.07	0.06
Nitrate	mg/l	10		<0.05		<0.05		<0.050		<0.050		<0.050		<0.050		<0.050UJ		<0.050		<0.050		<0.050		<0.050
Nitrate + Nitrite	mg/l	10		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050UJ		<0.050		<0.050		<0.050		<0.050
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			-116.1	-91.5	-111.9	-116.4	-177.4	-97.6	-117.8	-132.0	-120.6	-125.7	-131.0	-127.0	-132	-126	-152	-108	-69.3	-115.0	-95.5	-108.7	-113.3
Phosphorus (Total)	mg/l				0.024		<0.010		<0.010		<0.010		<0.0100		<0.010		<0.010		<0.010		0.023		0.045	
pH	S.U.		6.5-8.5	7.93	7.56	7.39	7.21	7.34	7.69	7.54	7.36	7.33	7.38	7.15	7.46	7.32	7.23	7.35	7.43	7.35	7.35	7.36	7.29	7.21
Specific Conductance	um/cm			722	741	656	763	648	759	641	761	717	566	759	763	738	773	780	747	779	885	922	778	877
Sulfate	mg/l		250	35.3	32.7	34.4	33.5	34.5	34.5	33.6	34	32.8	33.9	33.6	35.6	33.3	33.3	34.7	34.9	34.9	35.6	34.7	33.8	36
Sulfide	mg/l																							
Total Dissolved Solids	mg/l		500		443		502		406		475J+		407		431		430		499		465		415	
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	1.4	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			<2	2.2	<2	3.4	2.1	<2	<2	<2	2.0	2.1	<2	<2	<2	3.3	<2	<2	<2	<2	<2	<2	<2

*E* = Concentration exceeded the calibration range of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW16A																	
				Feb-95	May-95	Aug-95	Dec-95	May-96	Aug-96	Nov-96	May-97	Nov-97	Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01
Alkalinity	mg/l													444J	474	368	369	431	368	360	338
Ammonia ( as N)	mg/l			4.6										7.16J	5.4	5.8	6.1	4.4	4.1	4	3.4
Biological Oxygen Demand	mg/l			<5																	
Chemical Oxygen Demand	mg/l			<20																	
Chloride	mg/l		250	67										80.4	92.2	72.4	71.8	76.4	77.4	77	80.5
Cyanide	ug/l	200		<1.8	<1.4	<1.4J									<0.02		<0.02		<0.02		<0.02
Dissolved Oxygen	mg/l													0.05		0.00	0.00	0.00	0.00	0.00	0.00
Nitrate	mg/l	10														<0.050		<0.050		<0.050	
Nitrate + Nitrite	mg/l	10		<0.05										<0.1R	<0.05		<0.05		<0.05		<0.05
Oil and Grease	mg/l			<5.3											<5		<5		<5		<5
Ortho-Phosphate (Total)	mg/l			<0.02																	
Oxidation Reduction Potential	mV													-120		-114	-145	-125	-135	-138	-158
Phosphorus (Total)	mg/l														0.05		0.08		0.033		<0.01
pH	S.U.		6.5-8.5	6.95	7	6.77	7.03	7.48	7.05	6.85	7.08	7.28	7	6.92	6.7	6.87	6.96	6.70	6.91	6.98	6.89
Specific Conductance	um/cm			910	1039	955	1073	1231	1003	949	995	1070	1034	923	1046	950	990	910	867	956	901
Sulfate	mg/l		250	9.9										5.99	14.7	24.5	37.0	48.4	48.9	46.6	55.7
Sulfide	mg/l														<2	<2	<2	<2.0	<2	<2.0	<2.0
Total Dissolved Solids	mg/l		500	520											503		497		552		537
Dissolved Organic Carbon	mg/l													4.7	5	5.9	2.6	4.3	4.5	5	5.3
Total Organic Carbon	mg/l			4										4.8	5.1	3.3	2.5	3.4	4	3.8	5.0
Total Suspended Solids	mg/l			46																	
Ethane	ug/l													<16	<4	<4	<4	<4.000	<4	<4	<4
Ethene	ug/l													<15	4.6	<3	<3	<3.000	<3	<3	<3
Methane	ug/l													1800	1400	39	360	250	80	270	940

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*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW16A (cont'd)																	
				Feb-02	Feb-02dup	May-02	Aug-02	Nov-02	May-03	May-03 dup	Nov-03	Nov-03 dup	May-04	Nov-04	May-05	Nov-05	May-06	Nov-06	May-07	Nov-07	May-08
Alkalinity	mg/l			371	375	390	376	330	300	302	379	381	382	401	359	266	325	361	531	425	462
Ammonia ( as N)	mg/l			5.3	5.1	4.0	4.8	4.0	3.9	3.9	5.6	5.6	4.7	4.0	4.0	3.5	2.5	2.1	6.1	2.6	3.7
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l					17.0		<10	<10	<10	<10	<10	13.1	<10	13.4J	21.0J	17.2	33.5	<10	<10	12.4
Chloride	mg/l		250	89.1	89.4	93.7	75.8	67.7	79.2	79.4	89.7	91.3	77.7	64.8	76.4	76.0	71.6	65.8	96.2	63.8	78.9
Cyanide	ug/l	200				<0.02		<0.02	<0.02	<0.02	<0.02	<0.02UJ									
Dissolved Oxygen	mg/l			0.00		2.99R	0.05	0.2	0.1		0.0		0.02	0.11	0.19	0.15	0.44	0.21	0.20	0.44	0.25
Nitrate	mg/l	10		<0.05	<0.05		<0.050														
Nitrate + Nitrite	mg/l	10				<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.054	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l					<5		<5	<5	<5UJ	<5	<5									
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV			-101		-139	-328R	-69.5	-110.8		-112.2		-119.1	-129.7	-154.5	-106.6	-83.2	-103.1	-105.6	-49.3	-66.7
Phosphorus (Total)	mg/l					0.04		0.064	0.049	0.043	0.041	0.023	<0.01	<0.01	0.034	0.039	0.034	<0.010	0.053	<0.010	<0.010
pH	S.U.		6.5-8.5	6.88		6.87	7.00	6.96	6.87		6.94		6.69	6.91	6.79	7.14	7.07	7.46	6.94	6.97	6.84
Specific Conductance	um/cm			1170		1180	934	914	1040		1095		1227	818	1156	1055	1020	977	1194	808	1137
Sulfate	mg/l		250	54.3	54.5	51.4	46.0	51.0	98.2	98.6	45.6	46.4	51.8	39.4	60.6	56.2	35.6	46.7	23.2	39.8	34.2
Sulfide	mg/l			<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0								
Total Dissolved Solids	mg/l		500			538		520	613	608	627	638	675	568	630	533	558	567	666	537	571
Dissolved Organic Carbon	mg/l			3.8	4.3	4.3	4.6	6.1													
Total Organic Carbon	mg/l			4.0	4.5	4.8	4.2	3.1	2.6	2.7	4.9	4.9	3.6	3.3	3.6	3.8	2.4	2.5	4.2	4.2	2.6
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4	<4	<12	<12	<47	<47	<47	<47	<47	<47	<4	<4	<7.2	<7.2	<7.2
Ethene	ug/l			<3	<3	<3	<3	<3	<9	<9	<25	<25	<25	<25	<25	<25	<3	<3	<6.0	<6.0	<6.0
Methane	ug/l			160	160	130	<2	63	510	460	450	550	1200	350	380	270	8	210	770	180	280

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*E* = Concentration exceeded the calibration range  
of the instrument.  
*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW16A (cont'd)														
				Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15
Alkalinity	mg/l			387	370	360	361	367	399	323	390	433	416	444	491	438	395	473
Ammonia ( as N)	mg/l			3.4	0.095	1.41	3.07	4.02	2.60	3.10	4.80	2.90	4.10	2.3	5.2	3.4	3.9	3.5
Biological Oxygen Demand	mg/l																	
Chemical Oxygen Demand	mg/l			<10 UJ	<10	<10	12.7	<10	<10	12.4	<10	11J	<10	<10	12.6	15.1	13.4	<10
Chloride	mg/l		250	70.4	65.0	53.3	81.1	78.0	74.4	78.0	78.4	70.6	85.0	63.7	97.8	79.3	86.0	80.3
Cyanide	ug/l	200																
Dissolved Oxygen	mg/l			0.22			0.00	0.01	0.43	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.01
Nitrate	mg/l	10																
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l																	
Ortho-Phosphate (Total)	mg/l																	
Oxidation Reduction Potential	mV			-177.8	-79.0	-114.6	-90.0	-116.0	30.7	-111	-109	-141	-78	-60.4	-83.4	-66.8	-82.7	-87.6
Phosphorus (Total)	mg/l			<0.010	<0.010	<0.0100	<0.0100	0.0252	<0.010	<0.010	<0.010	0.013	0.032	0.019	0.037	0.034	0.032	<0.010
pH	S.U.		6.5-8.5	7.07	6.94	6.89	6.45	6.60	7.00	6.89	6.86	6.85	6.98	6.95	6.92	6.93	6.95	7.08
Specific Conductance	um/cm			987	966	948	974	1067	960	1077	1052	1050	1129	1036	1306	1195	1134	1227
Sulfate	mg/l		250	37.5	65.0	82.2	35.5	55.8	17.2	65.0	32.9	40.1	23.6	55.0	19.4	18.7	15.4	17.6
Sulfide	mg/l																	
Total Dissolved Solids	mg/l		500	547	567	572	555	514	574	583	767	570	552	549	623	569	533	560
Dissolved Organic Carbon	mg/l																	
Total Organic Carbon	mg/l			1.9	3.0	2.9	2.3	3.4	3.5	2.6	1.6	3.1	2.2	2.3	4.5	2.6	2.9	3.1
Total Suspended Solids	mg/l																	
Ethane	ug/l			<4	<7.5	<75	<60	<60	<40	<4	<4	<40	<4	<4	<40	<40	<40	<40
Ethene	ug/l			<3	<7.5	<75	<60	<60	<30	<3	<3	<30	<3	<3	<30	<30	<30	<30
Methane	ug/l			31	29	80	110	39	62	130	210	1300	130	150	81	600	450	1500

*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW16B																	
				Feb-95	May-95	Aug-95	8/95 dup.	Dec-95	May-96	Nov-96	May-97	Nov-97	Sep-98	May-99	May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01
Alkalinity	mg/l													311J	307	272	274	292	284	283	260
Ammonia ( as N)	mg/l													0.527J	0.48	0.21	0.24	0.069	0.17	0.062	0.14
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l															11.3		<10		<10	<10
Chloride	mg/l		250											55.8	57.1	57.4	62.4	64.9	69	67.9	69.8
Cyanide	ug/l	200		<0.75	<1.4	<1.4J	<1.4J								<0.02		<0.02		<0.02		<0.02
Dissolved Oxygen	mg/l													0.06		0.00	0.00	0.00	0.00	0.00	0.00
Nitrate	mg/l	10														<0.050		<0.050		<0.050	
Nitrate + Nitrite	mg/l	10												<0.1R	0.06		<0.05		<0.05		<0.05
Oil and Grease	mg/l														<5		<5		<5		<5
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV													50		-105	-141	-118	-129	-133	-152
Phosphorus (Total)	mg/l														0.19		0.057		<0.02		<0.01
pH	S.U.		6.5-8.5	7.81	7.9	7.21		7.05	7.9	6.98	7.47	7.59	7.6	6.97	7.08	7.16	7.24	6.95	7.29	7.25	7.13
Specific Conductance	um/cm			649	725	744		803	776	710	703	828	741	710	706	878	746	673	678	770	713
Sulfate	mg/l		250											32.7	35.6	45.5	45.8	44.3	38.9	41.6	44.4
Sulfide	mg/l														<2	<2	<2	<2.0	<2	<2.0	<2.0
Total Dissolved Solids	mg/l		500												423		400		484		435
Dissolved Organic Carbon	mg/l													1.5	1.4	4.2	1.5	1.9	2.2	2.2	3.9
Total Organic Carbon	mg/l													2.5	1.2	<1	<1	<1.0	1.4	1.9	2.0
Total Suspended Solids	mg/l																				
Ethane	ug/l													<16	<4	<4	<4	<4.000	<4	<4	<4
Ethene	ug/l													<15	<3	<3	<3	<3.000	<3	<3	<3
Methane	ug/l													160	92	<2	25	13	6.7	9	21

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ON NEXT PAGE

*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW16B (cont'd)																	
				Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09
Alkalinity	mg/l			266	284	292	279	253	284	334	336	288	256	259	253	356	250	290	281	296	314
Ammonia ( as N)	mg/l			0.086	0.11	0.06	<0.020	0.072	0.026	0.25	0.52	0.25	0.14	0.17	0.12	0.14	0.12	0.12	0.16	0.14	0.169
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l				<10		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10 UJ	<10	<10	
Chloride	mg/l		250	68.0	72.0	57.6	57.4	71.3	60.8	58.0	58.4	60.5	63.4	58.7	58.7	64.2	53.5	59.4	58.8	71.0	79.0
Cyanide	ug/l	200			<0.02		<0.02	<0.02	<0.02												
Dissolved Oxygen	mg/l			0.00	3.22R	0.07	0.10	0.30	0.10	0.02	0.12	0.15	0.11	0.34	0.14	0.06	0.39	0.14	0.07	0.43	
Nitrate	mg/l	10		<0.05		<0.050															
Nitrate + Nitrite	mg/l	10			<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l				<5		<5	<5UJ	<5												
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV			-109	-137	-312R	-60.9	-108.7	-101.3	-110.5	-114.6	-125.6	-97.6	-75.4	-91.5	-95.2	-42.6	-77.2	-73.5	-114.9	-116.7
Phosphorus (Total)	mg/l				0.018		<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.13	<0.01	<0.010	<0.010	<0.010	<0.010	<0.0100
pH	S.U.		6.5-8.5	7.24	7.15	7.36	7.25	7.23	7.25	7.09	7.00	7.09	7.49	7.38	7.72	7.16	7.36	7.21	7.33	7.26	7.20
Specific Conductance	um/cm			819	870	724	750	798	700	852	663	900	806	797	614	830	612	801	760	825	869
Sulfate	mg/l		250	35.6	44.2	45.5	40.2	48.2	61.3	44.0	36.7	69.7	49.8	44.4	39.5	44.0	40.2	45.6	41.7	35.0	38.2
Sulfide	mg/l			<2.0	<2.0	<2.0	<2.0	<2.0	<2.0												
Total Dissolved Solids	mg/l		500		371		421	461	472	482	471	484	446	458	451	438	454	396	418	516+	507
Dissolved Organic Carbon	mg/l			1.3	1.4	4.6	2.4														
Total Organic Carbon	mg/l			1.2	2.0	1.5	<1.0	<1.0	1.6	<1.0	1.1	1.1	1.5	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	<1.0	1.6
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4	<4	<4.7	<9.4	<9.4	<9.4	<4	<4	<4	<4	<4	<4	<4	<4	<7.5
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<4.9	<4.9	<4.9	<3	<3	<3	<3	<3	<3	<3	<3	<7.5
Methane	ug/l			14	2.7	4	8.4	23	55	240	41	48	<2	<2	3.9	200	10	14	<2	2.6	20

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*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.



**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW16B (cont'd)											
				May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15
Alkalinity	mg/l			317	282	302	277	335	316	302	338	321	311	278	336
Ammonia ( as N)	mg/l			0.129	0.090	0.210	0.057	0.058	0.067	<0.020	0.053	0.130	0.084	<0.020	0.098
Biological Oxygen Demand	mg/l														
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10	<10UJ	<10	<10	<10	<10	<10	<10
Chloride	mg/l		250	76.0	71.1	79.9	67.4	61.6	68.7J	73.8	73.9	71.6	69.1	78.3	76.7
Cyanide	ug/l	200													
Dissolved Oxygen	mg/l			0.00	0.07	0.69	0.00	0.00	0.00	0.00	0.00	0.04	0.07	0.01	0.03
Nitrate	mg/l	10													
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l														
Ortho-Phosphate (Total)	mg/l														
Oxidation Reduction Potential	mV			-87.5	-114	33.2	-105	-93	-123	-69.5	-57.2	-77.1	-51.4	-86.9	-92.2
Phosphorus (Total)	mg/l			<0.0100	0.0127	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	S.U.		6.5-8.5	6.89	7.00	7.35	7.19	7.10	7.23	7.30	7.31	7.31	7.22	7.32	7.37
Specific Conductance	um/cm			860	816	790	846	870	785	900	832	900	927	886	964
Sulfate	mg/l		250	34.8	40.2	36.5	50.2	36.6	28.5J	35.9	33.1	37.4	29.9	30.5	32.2
Sulfide	mg/l														
Total Dissolved Solids	mg/l		500	494	389	447	474	490	423	461	438	441	457	425B	441
Dissolved Organic Carbon	mg/l														
Total Organic Carbon	mg/l			<1.0	1.4	1.1	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	1.1	1.0
Total Suspended Solids	mg/l														
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			17	12	7.9	13	29	37	<2	26	10	72	3.2	98

*E* = Concentration exceeded the calibration range of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW17A																	
				May-00	5/00 dup.	Aug-00	8/00 dup.	Nov-00	Feb-01	2/01 dup.	May-01	Aug-01	Nov-01	11/01 dup.	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04
Alkalinity	mg/l			594	599	559	517	660	791	654	582	534	500	517	415	454	421	362	379	401	431
Ammonia ( as N)	mg/l			5.6	4.9	7.9	10	10	5.9	6.3	4.9	7	4.9	5.2	6.3	4.4	1.9	4.5	3.2	3.6	3.1
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l			37.5	37.5			11.3			<10		12.1	12.7		17.0		13.6	15.6	<10	21.0
Chloride	mg/l		250	79.4	79.1	125	125	129	73.4	42.9	58.4	111	94.1	93.9	95.9	93.4	110	98.6	51.4	133	86.1
Cyanide	ug/l	200		<0.02	<0.02			<0.02			<0.02		<0.02	<0.02		<0.02		<0.02	<0.02	<0.02	
Dissolved Oxygen	mg/l						0.00	0.00	0.00		0.00	0.00	0.00		0.00	0.28R	0.04	0.40	0.10	0.10	0.03
Nitrate	mg/l	10				<0.050	<0.050		<0.050	<0.050		<0.050			0.060		<0.050				
Nitrate + Nitrite	mg/l	10		0.08	0.08			<0.05			0.078		<0.05	<0.05		<0.05		<0.05	<0.05	<0.05	0.077
Oil and Grease	mg/l			<5	<5			<5			<5		<5	<5		<5		<5	<5UJ	<5	
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV					-74		-121	-85		-92	-98	-108		-64	-80	-363R	-47.5	-94.2	-88.3	-90.6
Phosphorus (Total)	mg/l			0.04	0.04			0.048			0.049		0.027	0.023		0.039		0.077	0.081	0.080	<0.01
pH	S.U.		6.5-8.5	6.47		6.65		6.76	6.52		6.69	6.82	6.76		6.81	6.54	6.90	6.75	6.60	7.45	6.65
Specific Conductance	um/cm			1197		1220		1380	1410		1180	1190	1300		1380	1360	1181	1152	1510	1205	1347
Sulfate	mg/l		250	30.2	29.9	<5	<5	8.3	118	117	162	36.2	50.8	51.6	56.1	105	55.6	79.0	207.0	50.4	163.0
Sulfide	mg/l			<2	<2	<2	<2	<2	<2.0	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	
Total Dissolved Solids	mg/l		500	708	716			660			828		746	656		724		721	1020J	693	846
Dissolved Organic Carbon	mg/l			4.6	4.7	10.4	10.1	5.4	6.1	5.0	6.9	7.5	7.6	7.9	6.1	6.3	5.6	10.7			
Total Organic Carbon	mg/l			4.6	4.7	8	8.0	5.6	5.5	5.6	5.3	6.9	8.0	8.5	4.8	6.1	5.0	5.2	1.9	4.7	2.8
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4	4.4	<4.000	<4.000	<4	<4	6.8	7.3	<4	<4	<4	<4	<12	<4.7	<47
Ethene	ug/l			3.6	<3	<3	3	<3	<3.000	<3.000	<3	5.3	<3	<3	<3	<3	<3	<3	<9	<3	<25
Methane	ug/l			1100	810	1300	1400	530	160	150	120	590	970	940	120	160	29	34	760	93	330

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E = Concentration exceeded the calibration range  
of the instrument.

D = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW17A (cont'd)																	
				4/04 Dup.	Nov-04	May-05	5/05 Dup.	Nov-05	May-06	Nov-06	May-07	5/07 Dup	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11
Alkalinity	mg/l			467	372	377	362	333	372	428	373	355	402	495	448	401	488	483	564	472	426
Ammonia ( as N)	mg/l			3.6	4.5	3.1	2.8	3.0	2.0	2.0	2.3	2.4	2.8	1.9	2.8	2.31	2.98	1.55	3.29	2.80	4.10
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l			17.4	19.1	<10	<10	<10	22.2	<10	<10	12.4J+	10.9J+	<10	12 J-	<10	21.7	13.0	<10	<10	18.1J+
Chloride	mg/l		250	86.3	119	87.5	82.2	68.2	87.6	75.1	78.3	76.9	81.5	67.1	95.1	58	83.6	55.1	77.5	72.1	101
Cyanide	ug/l	200																			
Dissolved Oxygen	mg/l				0.17	0.16		0.15	0.41	0.24	0.19		0.24	0.21	0.42	0.26		0.00	0.00	0.36	0.00
Nitrate	mg/l	10																			
Nitrate + Nitrite	mg/l	10		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l																				
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV				9.9	-109.2		-85.9	-40.6	-58.4	-61.7		-105.8	-83.5	-105.0	-78.5	-107.2	-73.5	-99	-34.7	-88
Phosphorus (Total)	mg/l			<0.01	0.069	0.026	0.022	0.090	0.097	0.036	0.033	0.029	<0.010	0.034	<0.010	<0.010	0.0274	<0.010	0.0844	<0.010	0.044
pH	S.U.		6.5-8.5		6.15	6.63		6.92	6.87	7.00	6.97		6.68	6.76	6.86	6.79	6.70	6.78	6.58	6.86	6.79
Specific Conductance	um/cm				1054	1309		1061	1223	1194	1003		956	1237	1090	1011	1211	772	1206	1120	1182
Sulfate	mg/l		250	194.0	45.0	151	142	66.5	94.4	88.5	79.5	78	51.4	62.4	10.5	110	40.6	108	42.8	83.2	27.5
Sulfide	mg/l																				
Total Dissolved Solids	mg/l		500	837	711	735	752	575	748	710	708	756	640	667	627	687	631	641	729	727	636
Dissolved Organic Carbon	mg/l																				
Total Organic Carbon	mg/l			2.8	4.7	3.8	3.9	3.9	2.5	3.0	2.5	2.4	5.2	3.4	2.3	3.0	5.6	4.0	3.3	3.9	4.1
Total Suspended Solids	mg/l																				
Ethane	ug/l			<9.4	<4.7	<4.7	<4	<4.7	<4	<4	<4	<4	<4	<4	<4	<7.5	<15	<15	<15	<40	<4
Ethene	ug/l			<4.9	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<7.5	<15	<15	<15	<30	<3
Methane	ug/l			230	24	26	37	33	65E 88D	36	69	65	32	150	31	21	51	74	50	150	61

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E = Concentration exceeded the calibration range  
of the instrument.

D = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW17A (cont'd)							
				May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15
Alkalinity	mg/l			468	465	439	527	561	457B	462	606
Ammonia ( as N)	mg/l			4.30	4.50	1.4 J-	3.3	4.0	4.3	2.9	3.7
Biological Oxygen Demand	mg/l										
Chemical Oxygen Demand	mg/l			16.8	14.7J-	12.3	14.9	14.8	16.7	21.2	<10.0
Chloride	mg/l		250	91.4	109	51.4	51.4	92.7	113	60.8	110
Cyanide	ug/l	200									
Dissolved Oxygen	mg/l			0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Nitrate	mg/l	10									
Nitrate + Nitrite	mg/l	10		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l										
Ortho-Phosphate (Total)	mg/l										
Oxidation Reduction Potential	mV			-20	-128	-49.5	-30.7	-67.4	-59.5	-68.1	-73.3
Phosphorus (Total)	mg/l			0.045	0.084	0.089	0.036	0.03	0.069	0.062	0.071
pH	S.U.	6.5-8.5		6.86	6.75	6.90	6.76	6.79	6.76	6.90	6.83
Specific Conductance	um/cm			1084	1193	1109	1204	1414	1262	1213	1450
Sulfate	mg/l		250	48.6	34	85.6	29.9	26.6	19.1	55.5	7.3
Sulfide	mg/l										
Total Dissolved Solids	mg/l		500	598	539	716	734	675	640	624	715
Dissolved Organic Carbon	mg/l										
Total Organic Carbon	mg/l			3.0	3.7	2.5	4.5	3.9	3.0	2.9	4.3
Total Suspended Solids	mg/l										
Ethane	ug/l			4.6	<4	<4	4.2	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			40	72	50	120	170	11	590	130

E = Concentration exceeded the calibration range of the instrument.

D = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW17B																	
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06
Alkalinity	mg/l			325	282	302	314	322	340	299	300	302	312	244	236	281	333	319	270	306	306
Ammonia ( as N)	mg/l			<0.02	<0.02	<0.02	<0.020	<0.02	<0.020	<0.020	<0.020	<0.02	<0.020	0.054	<0.020	<0.020	<0.020	0.060	0.054	<0.020	0.14
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l			29.1		<10		<10		<10		<10		<10	<10	<10	<10	<10	<10	<10	<10
Chloride	mg/l		250	56.6	53.9	57.7	59.4	57.7	55.6	55.4	56.3	63.1	61.5	65.3	88.5	78.4	72.6	70.7	66.5	64.4	59.9
Cyanide	ug/l	200		<0.02		<0.02		<0.02		<0.02		<0.02		<0.02	<0.02	<0.02	<0.02				
Dissolved Oxygen	mg/l				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00R	0.05	0.1	0.1	0.1	0.04	1.1R	0.13	0.14	0.39
Nitrate	mg/l	10			<0.050		<0.050		<0.050		<0.05		<0.050								
Nitrate + Nitrite	mg/l	10		<0.05		<0.05		<0.05		<0.05		<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Oil and Grease	mg/l			<5		<5		<5		<5		<5		<5	<5	<5					
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV				-89	-126	-94	-109	-106	-114	-83	-88	-348R	-43.2	-87.5	-91.4	-92.9	-125.5	-116.1	-84.2	-56
Phosphorus (Total)	mg/l			<0.02		<0.02		<0.02		<0.01		<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
pH	S.U.		6.5-8.5	7.00	7.07	7.04	6.79	7.30	7.26	7.16	7.12	6.90	7.29	7.10	7.17	7.80	6.98	7.07	7.01	7.17	7.28
Specific Conductance	um/cm			753	935	799	723	701	706	744	836	881	830	773	870	850	893	660	899	909	895
Sulfate	mg/l		250	56.3	52.4	54.2	54.6	52	53.1	53.4	55.6	57.0	53.8	56.4	68.4	59.8	56.4	55.8	59.8	65.7	63.9
Sulfide	mg/l			<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/l		500	563		413		499		406		501		487	505	506	533	510	460	500	549
Dissolved Organic Carbon	mg/l			<1	4.6	2.9	2	2.5	2.9	2.5	<1.0	1.6	2.2	4.1							
Total Organic Carbon	mg/l			<1	<1	<1	1.6	1.7	2.1	2.3	<1.0	1.9	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	<1.0
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4.000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4J	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3.000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3J	<3	<3	<3
Methane	ug/l			11	9.3	6.6	7.1	3.9	6.2	4.2	<2	<2	<2	<2	<2	<2	2.4	<2J	<2	2.3	23E 22D

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ON NEXT PAGE

*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW17B (cont'd)																				
				Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	May-14 Dup	Nov-14	May-15	May-15 Dup	Nov-15
Alkalinity	mg/l			332	338	300	337	336	341	279	309	296	352	299	337	317	270	287	319	330	289B	270	236	320B
Ammonia ( as N)	mg/l			<0.020	<0.020	<0.020	0.024	0.048	<0.020	0.200	<0.020	<0.020	<0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10 UJ	<10	<10	<10	<10	<10	<10	<10	<10UJ	<10	<10	<10	16	<10	<10	<10	<10
Chloride	mg/l		250	58.3	57.1	56.9	53.3	59.3	56	49.5	52.1	66.2	58.4J	58.5	55.3	63.5	65.5	69.4	62.4	62.3	71.3	64.6	63.6	65.8
Cyanide	ug/l	200																						
Dissolved Oxygen	mg/l			0.17	0.08	0.23	0.20	0.17	0.29		0.00	0.00	0.23	0.00	0.00	0.00	0.10	0.01	0.05	0.05	0.03	0.05		0.02
Nitrate	mg/l	10																						
Nitrate + Nitrite	mg/l	10		<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			-58.3	-91.1	-95.1	-87.1	-81.1	-88.7	-104.9	-85.5	-100	-43.2	-86	-24	-116	-60.9	-34.0	-70.2	-70.2	-71.4	-80.0		-80.6
Phosphorus (Total)	mg/l			0.095	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0100	<0.010	<0.010	<0.010	0.37	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	S.U.		6.5-8.5	7.28	7.10	7.17	7.15	7.27	7.14	7.09	7.30	7.00	7.18	7.15	7.15	7.11	7.25	7.19	7.22	7.22	7.16	7.24		7.25
Specific Conductance	um/cm			903	856	695	883	765	731	806	366	791	900	868	827	870	824	825	906	906	860	853		909
Sulfate	mg/l		250	60.3	52.8	55.1	50.8	48.4	44.0	40.4	42.4	52.0	69.2J	65.9	63.6	63.6	44.9	40.6	40.9	40.7	39.2	40.2	37.3	42.3
Sulfide	mg/l																							
Total Dissolved Solids	mg/l		500	509	533	335	485	504	447	422	418	483	547	482	497	406	515	460	426	450	440	393	408	449
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l			<1.0	<1.0	1.8	<1.0	<1.0	<1.0	1.3	1.1	<1.0	1.4	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			29	37	18	13	<2	2.5	<2	<2	<2	5.1	4.3	15	26	4.5	<2	<2	<2	<2	<2	<2	<2

*E* = Concentration exceeded the calibration range of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW18A																	
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	Nov 02 Dup	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05
Alkalinity	mg/l			556	731	576	667	529	466	433	407	390	466	341	337	326	479	486	488	402	377
Ammonia ( as N)	mg/l			1.8	2.5	4.1	3	3.1	2.3	1.5	1.5	0.93	8.4	0.67	0.86	1.5	0.91	1.2	1.5	1.1	0.93
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l			34.4		<10		<10		<10		11.2		<10	<10	<10	<10	<10	<10	<10	<10
Chloride	mg/l		250	36.1	62.8	68.6	51.4	44.6	37.3	40.4	41.0	33.6	53.9	47.5	47.4	51.2	58.3	45.7	64.6	58.4	68.9
Cyanide	ug/l	200		<0.02		<0.02		<0.02		<0.02		<0.02		<0.02	<0.02	<0.02	<0.02				
Dissolved Oxygen	mg/l				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00R	0.06	0.2		0.10	0.10	0.04	1.4R	0.15	0.19
Nitrate	mg/l	10			0.091		0.44		<0.050		0.080		<0.050								
Nitrate + Nitrite	mg/l	10		0.86		<0.05		0.22		0.28		1.1		0.22	0.23	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Oil and Grease	mg/l			<5		<5		<5		<5		<5		<5	<5	<5	<5				
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV				-4	-68	-46	-148	-61	-64	-30	-39	-355R	-14.8		-62.9	-63.4	-66.7	-80.4	-122.3	-60.6
Phosphorus (Total)	mg/l			0.03		<0.02		<0.02		<0.01		<0.01		<0.01	0.016	<0.01	<0.01	<0.01	<0.01	<0.01	0.02
pH	S.U.		6.5-8.5	6.48	6.73	6.60	6.65	6.70	6.82	6.74	6.70	6.56	6.83	6.71		6.72	7.09	6.59	6.58	6.52	6.83
Specific Conductance	um/cm			991	1190	1350	1320	1070	980	982	1220	1050	1166	966		1057	1312	1229	878	1249	1214
Sulfate	mg/l		250	25	21.8	49.7	131	137	179	160	147	124	124	108	108	136	169	138	81.0	135	124
Sulfide	mg/l			<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0				
Total Dissolved Solids	mg/l		500	651		689		823		609		623		637	669	658	922	795	728	742	757
Dissolved Organic Carbon	mg/l			3.4	5.6	3.6	5.2	5.5	5.7	5.5	4.3	3.8	7.1	19.5	4.4						
Total Organic Carbon	mg/l			3.1	4.5	3.3	5.1	5.5	5.1	6.2	3.3	4.0	5.9	3.9	3.7	1.5	4.7	2.2	4.8	3.7	5.1
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4,000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<19	<4J	<19	<4
Ethene	ug/l			<3	<3	<3	<3,000	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<9.8	<3J	<9.8	<3
Methane	ug/l			210	360	<2	120	48	26	39	27	9.6	32	5.9	5.7	12	76	230	14J	49	8.8

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ON NEXT PAGE

E = Concentration exceeded the calibration range

of the instrument.

D = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW18A (cont'd)																			
				May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15
Alkalinity	mg/l			399	468	453	446	446	449	483	447	446	558	443	473	490	479	460	513	555	552B	488	655
Ammonia ( as N)	mg/l			0.78	0.59	0.69	0.99	0.66	1.2	1.4	1.39	0.901	1.58	0.74	1.1	1.0	1.7	0.9	1.3	1.6	1.9	1.4	1.3
Biological Oxygen Demand	mg/l																						
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10	<10 UJ	<10	<10	<10	12.7	<10	<10	16.1	16.6J	23.1	12.4	10.3	18.3	<10	<10
Chloride	mg/l		250	41.0	60.8	39.0	66.2	32.7	65.9	60.0	78.1	62.9	74.9	42.7J	99.2	59.0	97.3	54.7	96.4	55.2	85.7	66.7	73.0
Cyanide	ug/l	200																					
Dissolved Oxygen	mg/l			0.73	0.24	0.30	0.29	0.32	0.57	0.21		0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.00	0.01
Nitrate	mg/l	10																					
Nitrate + Nitrite	mg/l	10		<0.05	<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	0.162	<0.050	<0.050	1.1	<0.050	<0.050	<0.050	0.19	<0.050	<0.050	<0.050	0.072	<0.050
Oil and Grease	mg/l																						
Ortho-Phosphate (Total)	mg/l																						
Oxidation Reduction Potential	mV			-23.3	-20.2	-55	-52.2	-64.0	-66.7	-66.0	-87.8	-45.3	-80.0	24.9	-76	-18	-113	-42	-28.3	-53.5	-41.9	-43.8	-48.3
Phosphorus (Total)	mg/l			0.024	0.046	0.038	0.017	<0.010	<0.010	<0.010	<0.0100	<0.010	0.0235	<0.010	0.2	<0.010	0.033	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	S.U.		6.5-8.5	6.85	6.80	6.77	6.77	6.75	6.88	6.67	6.68	6.36	6.58	6.86	6.73	6.80	6.68	6.86	6.70	6.74	6.63	6.83	6.72
Specific Conductance	um/cm			1171	1196	1009	1130	1113	1089	1024	1131	976	1220	1070	1298	1106	1269	1168	1298	1330	1372	1289	1447
Sulfate	mg/l		250	191	101	120	43.8	144	65	73	35.7	79.5	61.6	129 J	97.4	89.8	104.0	58.0	30.8	48.0	27.9	<5.0	21.6
Sulfide	mg/l																						
Total Dissolved Solids	mg/l		500	797	710	789	622	671	729	658	611	673	774	714	802	726	674	787	725	657	718	647	763
Dissolved Organic Carbon	mg/l																						
Total Organic Carbon	mg/l			1.6	2.1	2.0	5.0	2.5	2.0	3.1	4.3	3.8	3.1	3.0	4.1	2.3	3.8	2.8	3.3	2.9	2.7	3.2	3.6
Total Suspended Solids	mg/l																						
Ethane	ug/l			<4	<4.7	<9.0	<4	<4	<4	<7.5	<15	<15	<15	<40	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<7.5	<3	<3	<3	<7.5	<15	<15	<15	<30	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			<2	54	300	67	48	21	20	35	47	81	<20	54	72	44	6.2	90	45	16	100	270

E = Concentration exceeded the calibration range of the instrument.

D = Analytical result after sample dilution.



**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW18B																	
				May-00	Aug-00	Nov-00	Feb-01	May-01	Aug-01	Nov-01	Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	May-05	Nov-05	May-06
Alkalinity	mg/l			335	315	328	344	331	348	328	303	310	324	245	249	287	341	311	256	345	278
Ammonia ( as N)	mg/l			0.04	<0.020	0.026	<0.020	0.05	<0.020	0.062	<0.020	0.033	0.061	<0.020	<0.020	0.038	0.048	0.13	0.064	0.063	0.052
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l			24.4		<10		<10		<10		<10		<10	<10	<10	<10	<10	<10	<10	<10
Chloride	mg/l		250	50.6	47.6	51.1	51.2	50.5	49.9	51.4	50.2	52.6	48.7	50.0	59.2	49.7	50.4	54.0	54.2	52.9	55.8
Cyanide	ug/l	200		<0.02		<0.02		<0.02		<0.02		<0.02		<0.02	<0.02	<0.02					
Dissolved Oxygen	mg/l				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00R	0.05	0.10	0.10	0.00	0.06	1.4R	0.15	0.14	0.41
Nitrate	mg/l	10			<0.050		<0.050		<0.050		<0.05		<0.050	<0.05							
Nitrate + Nitrite	mg/l	10		<0.05		<0.05		<0.05		<0.05		<0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Oil and Grease	mg/l			<5		<5		<5		<5		<5		<5	<5	<5					
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV				-121	-146	-153	-153	-136	-150	-107	-117	-305R	-48.6	-124.7	-112.7	-115.0	-128.3	-167.0	-106.6	-76.8
Phosphorus (Total)	mg/l			<0.02		<0.02		<0.02		<0.01		<0.01		<0.01	<0.01	<0.01	<0.01	0.18	<0.01	0.026	<0.010
pH	S.U.		6.5-8.5	7.04	7.26	7.23	7.22	7.38	7.23	7.24	7.16	6.95	7.37	7.06	7.21	7.58	7.03	7.11	7.04	7.30	7.36
Specific Conductance	um/cm			765	936	829	709	688	709	727	835	872	809	735	812	758	827	641	850	832	821
Sulfate	mg/l		250	66.4	60.2	61.9	61.2	56.3	55.4	56.9	57.5	57.6	53.9	56.4	66.6	58.5	57.3	58.7	60.9	60.7	57.3
Sulfide	mg/l			<2	<2	<2	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0					
Total Dissolved Solids	mg/l		500	608		383		463		470		566		459	477		501	468	430	459	528
Dissolved Organic Carbon	mg/l			1.3	2.4	<1	2.0	3.1	3.3	1.6	1.0	1.6	2.6	2.5							
Total Organic Carbon	mg/l			<1	<1	<1	1.6	1.7	2.2	1.7	<1.0	1.6	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	<1.0
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4.000	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4J	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3.000	<3	<3	6.0	<3	<3	<3	<3	<3	<3	<3	<3J	<3	<3	<3
Methane	ug/l			28	14	34	32	15	25	30	6.3	4.6	6.9	<2	7.8	4.7	30	7.3J	13	15	14

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ON NEXT PAGE

E = Concentration exceeded the calibration range  
of the instrument.

D = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW18B (cont'd)																				
				Nov-06	May-07	Nov-07	May-08	Nov-08	May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15		
Alkalinity	mg/l	200	250	190	282	314	316	355	353	315	341	331	316	286	325	313	323	336	369B	312B	307	366B		
Ammonia ( as N)	mg/l			0.039	0.057	0.079	0.059	0.12	0.074	0.054	0.046	0.048	<0.20	0.066	0.056	0.068	0.059	0.051	0.061J+	0.053	0.057	0.059		
Biological Oxygen Demand	mg/l																							
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10 UJ	<10	11.4	<10	<10	<10	<10	<10	<10	<10	<10	11.3	13.8	<10	<10		
Chloride	mg/l			55.9	57.9	57.8	54.1	60.0	59.0	56.0	59.9	59.1	60.6J-	60.1	56.4	58.2	60.8	63.2	59.2	70.1	65.7	66.2		
Cyanide	ug/l																							
Dissolved Oxygen	mg/l					0.15	0.09	0.19	0.19	0.24	0.19		0.00	0.00	0.11	0.00	0.00	0.00	0.04	0.01	0.04	0.04	0.03	0.02
Nitrate	mg/l			10																				
Nitrate + Nitrite	mg/l			10		<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Oil and Grease	mg/l																							
Ortho-Phosphate (Total)	mg/l																							
Oxidation Reduction Potential	mV			-79.2	-107.4	-62.3	-106.5	-94.0	-103.4	-117.0	-80.8	-110.0	-37.5	-116	-42	-140	-79	-55.1	-81.3	-64.2	-85.3	-95.5		
Phosphorus (Total)	mg/l			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0100	<0.010	<0.010	<0.010	0.18	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
pH	S.U.		6.5-8.5	7.55	7.09	7.21	7.17	7.36	7.11	7.07	6.37	7.03	7.23	7.24	7.24	7.18	7.29	7.19	7.23	7.15	7.20	7.16		
Specific Conductance	um/cm			847	846	859	910	805	796	882	711	831	830	795	772	840	848	880	966	946	927	987		
Sulfate	mg/l		250	58.6	57.8	60.4	58.1	55.5	54	51.3	49.9	82.9	50.3J-	48.5	43.9	45.5	46.9	47.5	46.4	49.6	44.7	45.4		
Sulfide	mg/l																							
Total Dissolved Solids	mg/l		500	491	547	492	492	514	491	433	450	514	478	457	416	383	522	502	467	534	448	518		
Dissolved Organic Carbon	mg/l																							
Total Organic Carbon	mg/l			<1.0	<1.0	1.8	<1.0	<1.0	<1.0	1.4	1.2	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0		
Total Suspended Solids	mg/l																							
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4		
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3		
Methane	ug/l			8.4	5.6	6.8	6.0	<2	3.5	3.1	3.4	2.7	<2	<2	4.3	<2	<2	2.3	<2	<2	<2	<2		

*E* = Concentration exceeded the calibration range of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW19A																	
				Feb-02	May-02	Aug-02	Nov-02	May-03	Nov-03	May-04	Nov-04	Mar-05	May-05	Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08	May-09
Alkalinity	mg/l			403	400	411	290	223	372	357	429		368	310	380	360	425	371	490	423	438
Ammonia ( as N)	mg/l			5.0	4.9	4.3	5.0	<0.020	4.0	3.3	3.9		3.7	1.2	1.5	1.8	3.2	3.0	2.6	3.0	2.44
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l				17.2	14.0	<10	13.2	16.1	<10	10.5		<10	15.6J	29.7	<10	<10	<10	11.1	<10 UJ	<10
Chloride	mg/l		250	97.2	101	100	93.9	35.2	89.5	82.8	87.7		81.0	51.8	87.6	72.0	81.9	85.8	77.8	80.2	66.0
Cyanide	ug/l	200																			
Dissolved Oxygen	mg/l			0.00	2.31R	0.03	0.20	0.40	0.00	0.02	0.14	0.10	0.32	0.25	0.65	0.27	0.10	0.24	0.33	0.18	
Nitrate	mg/l	10		<0.05	<0.05	<0.050	<0.050	2.6	<0.05	<0.05	<0.05		<0.05	0.83	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050	<0.050
Nitrate + Nitrite	mg/l	10																			
Oil and Grease	mg/l																				
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV			-65	-128	-317R	-67.2	59.9	-88.6	-98.1	-66.1	-81.4	-85.5	-64.2	-54.4	-73.6	-78.7	-53.9	-46.1	-102.2	-47.3
Phosphorus (Total)	mg/l																				
pH	S.U.		6.5-8.5	6.77	6.65	6.91	6.83	7.17	7.25	6.74	6.49	6.96	6.82	7.10	6.81	7.31	7.00	6.90	6.75	7.02	6.86
Specific Conductance	um/cm			1220	1290	1100	1103	683	1143	1169	907		1260	876	1182	1000	930	1064	1183	895	1026
Sulfate	mg/l		250	41.0	82.7	47.2	65.5	63.4	73.8	85.5	58.4		117.0	56.5	85.3	49.5	49.3	43.9	54.3	27.0	77.0
Sulfide	mg/l			<2.0	<2.0	<2.0	<2.0	<2.0	<2.0												
Total Dissolved Solids	mg/l		500																		
Dissolved Organic Carbon	mg/l			4.1	5.0	5.7	5.9														
Total Organic Carbon	mg/l			4.4	4.1	5.2	3.4	1.3	4.5	3.1	4.3		4.1	3.6	2.8	2.9	2.8	4.2	3.7	2.3	3.3
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4	<4	<4.7	<4.7	<4.7		<4.7	<4.7	<4	<4	<4	<4	<4	<4	<30
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<3	<3		<3	<3	<3	<3	<3	<3	<3	<3	<30
Methane	ug/l			51	19	49	23	14	73	99	29		74	41	75E	38	52	28	220	22	23
															92D						

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*E* = Concentration exceeded the calibration range  
of the instrument.  
*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

			Secondary	MW19A (cont'd)												
Parameter	Units	MCL	Standard	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15
Alkalinity	mg/l			456	496	572	476	469	478	490	464	542	557	492	468	562
Ammonia ( as N)	mg/l			6.85	4.61	6.81	5.60	6.50	6.70	6.70	3.40	6.2	5.8	7.6	4.4	5.4
Biological Oxygen Demand	mg/l															
Chemical Oxygen Demand	mg/l			23.4	10.5	15.0	<10	13.0	<10	<10	12.0	14.6	22.3	19.9	11.3	11.0
Chloride	mg/l		250	64.7	57.0	84.6	68.8	95.6	92.0	111.0	58.0	101	81	102	66.8	99.7
Cyanide	ug/l	200														
Dissolved Oxygen	mg/l				0.24	0.03	0.56	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00
Nitrate	mg/l	10		<0.050	<0.050	<0.050	<0.050	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrate + Nitrite	mg/l	10					<0.050	0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		<0.050
Oil and Grease	mg/l															
Ortho-Phosphate (Total)	mg/l															
Oxidation Reduction Potential	mV			-102.8	-29.5	-82	45.3	-66	-87	-106	-25.9	-27.2	-47.4	-48.3	-52.1	-34
Phosphorus (Total)	mg/l															
pH	S.U.		6.5-8.5	6.85	6.62	6.59	6.89	6.77	6.71	6.78	6.83	6.83	6.85	6.81	6.93	6.95
Specific Conductance	um/cm			1006	865	1217	1110	1192	1230	1261	1113	1184	1304	1370	1208	1396
Sulfate	mg/l		250	40.2	105.0	37.2	107.0	10.3	38.2	24.5	53.2	18.1	37.8	23.9	59.1	33.1
Sulfide	mg/l															
Total Dissolved Solids	mg/l		500													
Dissolved Organic Carbon	mg/l															
Total Organic Carbon	mg/l			4.6	3.1	5.4	4.1	3.4	2.7	5.2	1.8	4.3	3.6	4.5	3.5	4.6
Total Suspended Solids	mg/l															
Ethane	ug/l			<30	<30	<30	<80	<4	<4	<4	<4	4.2	<4	<4	<4	<4
Ethene	ug/l			<30	<30	<30	<60	<3	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			200	120	91	56	<200	110	85	50	180	49	44	130	170

*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW20A																	
				Feb-02	May-02	Aug-02	Aug-02 Dup	Nov-02	May-03	Nov-03	May-04	Nov-04	Mar-05	May-05	Nov-05	May-06	Nov-06	May-07	Nov-07	May-08	Nov-08
Alkalinity	mg/l			462	459	480	475	357	249	426	369	477		379	400	414	407	375	442	445	443
Ammonia ( as N)	mg/l			3.1	3.5	5.7	4.0	3.7	2.3	2.7	2.5	3.0		2.8	3.1	1.3	1.5	2.4	2.1	2.1	2.5
Biological Oxygen Demand	mg/l																				
Chemical Oxygen Demand	mg/l				17.5	16.0		<10	11.8	10.3	<10	16.1		15.7J	21.6J	<10	<10	<10	<10	<10	<10 UJ
Chloride	mg/l		250	67.1	81.8	84.0	82.8	86.0	52.8	96.7	89.8	90.3		83.4	92.1	69.0	91.5	68.9	68.3	57.5	69.2
Cyanide	ug/l	200																			
Dissolved Oxygen	mg/l			0.00	4.24R	0.03		0.30	0.10	0.00	0.02	0.14	0.11	0.15	0.24	0.53	0.20	0.08	0.24	0.28	0.26
Nitrate	mg/l	10		<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050
Nitrate + Nitrite	mg/l	10																			
Oil and Grease	mg/l																				
Ortho-Phosphate (Total)	mg/l																				
Oxidation Reduction Potential	mV			-84	-120	-342R		-50.9	-94.0	-93.5	-98.5	-85.4	-79.5	-92.7	-95.2	-55.4	-76.8	-77.8	-50.4	-52.6	-73.9
Phosphorus (Total)	mg/l																				
pH	S.U.		6.5-8.5	6.59	6.61	6.76		6.61	6.96	7.10	6.62	6.53	6.93	6.72	6.95	6.77	7.23	6.95	6.79	6.68	6.92
Specific Conductance	um/cm			1280	1380	1222		1236	821	1230	1300	1036		1290	1276	1245	1134	960	1142	1154	960
Sulfate	mg/l		250	74.7	90.0	78.7	78.4	73.8	83.0	83.1	81.2	88.6		91.9	76.6	145.0	49.0	77.2	59.3	93.6	46.3
Sulfide	mg/l			<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0											
Total Dissolved Solids	mg/l		500																		
Dissolved Organic Carbon	mg/l			4.5	5.6	6.1	6.0	5.9													
Total Organic Carbon	mg/l			4.2	4.8	5.5	5.3	4.5	<1.0	4.2	3.5	4.9		3.9	4.5	2.9	3.2	2.4	4.6	3.2	2.0
Total Suspended Solids	mg/l																				
Ethane	ug/l			<4	<4	<4	<4	<4	<4	<9.4	<80	<9.4		<4	<4	<4	<4.7	<4	<4	<4	<4
Ethene	ug/l			<3	<3	<3	<3	<3	<3	<4.9	<60	<4.9		<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			68	47	74	48	54	20	98	130	26		37	89	44E	62	100	36	75	22
																56D					

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*E* = Concentration exceeded the calibration range  
of the instrument.

*D* = Analytical result after sample dilution.

**TABLE M-3.  
WET CHEMISTRY ANALYTICAL RESULTS  
POWELL ROAD LANDFILL, HUBER HEIGHTS, OHIO**

Parameter	Units	MCL	Secondary Standard	MW20A (cont'd)													
				May-09	Nov-09	May-10	Nov-10	May-11	Oct-11	May-12	Nov-12	May-13	Nov-13	May-14	Nov-14	May-15	Nov-15
Alkalinity	mg/l			311	471	383	276	350	451	446	435	399	509	494	504B	464	566
Ammonia ( as N)	mg/l			1.97	2.27	1.33	1.82	1.60	1.8	2.0	2.1	2.1	1.8	2.4	2.5	2.4	2.3
Biological Oxygen Demand	mg/l																
Chemical Oxygen Demand	mg/l			<10	<10	<10	<10	<10	<10	<10	<10UJ	<10	14.9	15.7	18.3	<10	<10
Chloride	mg/l		250	53.0	61.7	49.9	57.1	61.2	89.4	67.5	75.5	51.7	92.9	77.8	89.0	79.4	81.4
Cyanide	ug/l	200															
Dissolved Oxygen	mg/l					0.00	0.01	0.44	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00
Nitrate	mg/l	10		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Nitrate + Nitrite	mg/l	10						<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		<0.050
Oil and Grease	mg/l																
Ortho-Phosphate (Total)	mg/l																
Oxidation Reduction Potential	mV			-84	-97.7	-65.9	-102	45.3	-87	-77	-115	-63.3	-47.1	-60.1	-55.1	-67.7	-71.4
Phosphorus (Total)	mg/l																
pH	S.U.		6.5-8.5	6.97	6.81	6.72	6.74	7.00	6.75	6.73	6.77	6.84	6.82	6.85	6.72	6.94	6.87
Specific Conductance	um/cm			841	1037	665	831	870	1223	1143	1142	1000	1207	1326	1356	1194	1359
Sulfate	mg/l		250	50.0	63.5	58.0	63.0	74.9	58.6	51.9	58.4	96.9	39.6	39.6	21.5	32.2	23.2
Sulfide	mg/l																
Total Dissolved Solids	mg/l		500														
Dissolved Organic Carbon	mg/l																
Total Organic Carbon	mg/l			2.5	4.4	2.4	2.9	2.7	2.4	1.9	<1.0	1.6	3.0	3.2	3.2	3.3	3.4
Total Suspended Solids	mg/l																
Ethane	ug/l			<15	<15	<15	<15	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Ethene	ug/l			<15	<15	<15	<15	<3	5.1	<3	<3	<3	<3	<3	<3	<3	<3
Methane	ug/l			12	26	31	9.5	8.8	48	62	32	13	39	120	29	85	140

*E* = Concentration exceeded the calibration range of the instrument.

*D* = Analytical result after sample dilution.